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Abstract

How Do Words and Body Language Diverge? Perceptions, Antecedents, and Consequences of Verbal and Nonverbal Emotional Expressions in Close Relationships

Lucylle Alexandra Armentano

2021

Emotional expressions play a substantive role in building and maintaining high-functioning close relationships (Algoe et al., 2013; Gable et al., 2004). However, it is not clear from existing work whether the *ways* in which we express emotion, specifically through verbal and nonverbal channels, might be impacting how relationships are built and maintained. In the four chapters of this dissertation, one of which provides a review of the literature within a theoretical framework and three of which are empirical, I explore the different functions these channels might have for building relationships with a particular focus on identifying how verbal and nonverbal channels are operating within highly satisfied and committed relationships. In the first chapter, I outline how verbal emotional expressions, because they are clear and undeniable, may signal that an expresser is vulnerable and is sharing their emotion intentionally, whereas nonverbal expressions may signal that an emotion is genuinely felt as well as the intensity of that emotion. I then evaluate this framework empirically, finding evidence that verbal emotional expressions are perceived to be intentional and sincere and that nonverbal expressions are also perceived to be sincere. I next examine the links between these channels of expression and their potential relational antecedents and consequences, finding that an expresser's responsiveness and trust in the partner predict both their verbal and nonverbal expression in established, highly satisfied romantic relationships. Intriguingly, I also find unexpected evidence for the importance of relational context in that expressers are helped most (and marginally liked the most) when

they express nervousness nonverbally without an accompanying verbal expression in a newly initiated relationship. In sum, this dissertation provides evidence for some differential functions of verbal and nonverbal expressions for building relationships and indicates the need to more deeply examine this distinction.

How Do Words and Body Language Diverge? Perceptions, Antecedents, and Consequences of
Verbal and Nonverbal Emotional Expressions in Close Relationships

A Dissertation

Presented to the Faculty of the Graduate School

Of

Yale University

In Candidacy for the Degree of

Doctor of Philosophy

By

Lucylle Alexandra Armentano

Dissertation Director: Margaret S. Clark

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General Introduction

Emotional expressions, as the outward displays of our inner affective states, are integral to our social interactions, particularly those with close others. But, as I will explore in this dissertation, do the ways that we express our emotions matter for how emotions might function to build and strengthen our relationships with close others? Imagine that you are out to dinner with your romantic partner and your partner is recounting how well a presentation went at work that day. The different ways in which your partner expresses their emotions about this presentation, through both the words they use to describe it as well as their facial expressions, tone of voice, gestures, and other nonverbal cues, are likely crucial to your understanding of the event and, in turn, to your reactions. But how are they crucial? What role do they play in your conceptualization of and response to the event? Further, each emotional aspect of the situation, from your partner's emotional expressions to your emotional reactions, likely shapes how this event in your partner's life impacts both of you individually as well as your relationship. But in what ways? This dissertation examines these questions within the context of both existing romantic relationships as well as in newly initiated relationships with the aim of improving our understanding of how verbal and nonverbal emotional expressions may play differential roles in building healthy, high-functioning close relationships.

It may be helpful here to consider why it is beneficial to examine the functions of verbal and nonverbal emotional expressions within the specific context of close, interdependent relationships, such as those found between romantic partners, friends, or family members. While we may express emotion in a variety of contexts, they are most functional within social contexts (Fridlund, 1991) and in particular, in interactions with close relationship partners whom one trusts and for whom one cares. This is, in part, because these are the contexts where most

emotion is expressed and perceived within our day-to-day lives (Rimé, 2009; Von Culin et al., 2017). Here I define close relationships as those within which we experience the highest amounts of mutual care and non-contingent responsiveness. It is reasonable that most of our emotional expression, and by extension, most of the implications and consequences of those expressions, would occur within this context given the interdependent nature of these relationships. As Berscheid (1983) outlines, emotions occur in response to deviations from our routines and patterns, and these are both most likely and most impactful within our most prominent close relationships.

But not all close relationships, even if they are formed on a bedrock of mutual care and responsiveness, are created equal, particularly when it comes to fundamental dimensions such as satisfaction in the relationship, commitment to the partner, and trust in the partner. This is evidenced by decades of relationship scholarship documenting the predictors and consequences of variability in relational satisfaction and commitment (e.g., Flora & Segrin, 2003; Gottman et al., 1998; Le et al., 2010), both of which can be measured using established scales that allow for such variability (e.g., Hendrick, 1988; Rusbult et al., 1998). Even though relationships vary on the extent to which couples are satisfied and committed, I am focusing on relationships that are high-functioning and characterized by high satisfaction, commitment, and trust in this dissertation. Although this is a narrow slice of the breadth of relationships that exist, I believe that this approach allows me to take the unique perspective of examining what is working well in actual, high-functioning relationships with the goal of applying these findings as toolkits to improve relational processes and satisfaction in other close relationships. This approach is akin to the bright spot, or positive deviance, approach, which is primarily practiced within public health policy domains to examine a small number of individuals within a community who are

thriving in the researcher's selected research domain to better understand what these individuals are doing (without intervention) and to extend these uncommon practices to other individuals in the community (Marsh et al., 2004). Key to this approach is that the behaviors that are documented are naturally occurring and do not require resources beyond the community's capacity to implement. This dissertation is focused primarily on the early steps of the positive deviance approach, with the hopes that future work might build on these findings to create opportunities for relational partners to adopt positive practices that help them improve the functioning of their relationships.

That being said, this approach of only examining (both theoretically and empirically) highly functional and satisfied romantic relationships does constrain the generalizability of my ideas and results. Whereas the conclusions drawn from this dissertation may apply directly to other individuals in highly satisfied and committed relationships, they might not apply to couples who are less satisfied, less committed, and less trusting of their partner. I will return to this point at the conclusion of the dissertation, but I preface here that the theoretical framework, specific predictions, and findings are based on my constrained interest in highly functional romantic relationships that are characterized by high satisfaction and commitment. This constraint fits the primary goal of this dissertation to elucidate the ways in which verbal and nonverbal emotional expressions serve building and maintenance functions within such highly functional relationships. Ultimately, a goal of this work, in keeping with the aims of the positive deviance approach, is to adapt this understanding of the functions that each channel serves in strong relationships so that the results might be used to develop tools for individuals in more dysfunctional relationships to improve their relationship functioning through developing verbal and nonverbal emotional expression skills.

To better understand the functions that verbal and nonverbal expressions play in building and maintaining high-functioning relationships, we need to first investigate what is already known about how emotional expression (broadly speaking) functions within close relationships (which may be variable in the degree to which partners are committed and satisfied). There is considerable evidence documenting the benefits and strengths of expressing emotion to close partners with whom one feels comfortable and cared for (e.g., Faure et al., 2018; Gable et al., 2004; Guerrero, 1994). However, despite the clear importance that emotions play for building and maintaining close relationships, scholars generally do not investigate how the *ways* in which emotion is expressed, specifically through the verbal and nonverbal channels of expression, might have differential benefits for the individual and for the relationship. Similarly, there has been an extensive, but separate, examination of the functions that different channels of emotional expressions serve outside of any particular relational context (e.g., Boone & Buck, 2003; Ekman et al., 1980; Fischer & LaFrance, 2015; Krause, 2017; Van Kleef, 2017). In this dissertation, I hope to bridge the divide between these literatures to investigate the specific roles that different channels of emotional expression may serve (both independently and in interaction with one another) in building healthy close relationships.

As highlighted above, I focus in this dissertation on two ways of expressing emotion—verbal and nonverbal expression. Here I define verbal emotional expression as the semantic content of an emotional expression, which may include direct expressions using conventional emotion labels (Reilly & Seibert, 2003). For example, one might say “I’m so *happy* you are coming to visit.” However, given evidence from Planalp and colleagues (1996), that direct verbal statements of emotion are rarely used as cues to emotional experience by observers, it is crucial to broaden this definition to include more frequently employed indirect statements that allow the

perceiver to infer an emotion. For example, one might say “It’s great that you are coming to visit,” which carries the implications of happiness and may allow the perceiver to infer and label the emotion as happiness (Barrett et al., 2007). Going a step further, if the perceiver labels an emotion for the expresser, the expresser may then accept or actively agree with the interpretation (or not), which also likely aids in comprehension of the emotion for both the expresser and the perceiver (Lindquist & Barrett 2008).

I define nonverbal emotional expression to include facial expressions (Ekman et al., 1980; Kring & Sloan, 2007; Russell, 2015), bodily gestures (Montepare et al., 1999), paralingual cues [Bliss-Moreau et al., 2010; Scherer, 1986 (as cited in Knapp et al., 2014); Pittam & Scherer, 1993 (as cited in Knapp et al., 2014); Scherer et al., 1991 (as cited in Knapp et al., 2014)], tears (Aragon et al., 2015; Aragon & Clark, 2018) and touch (Jakubiak & Feeney, 2017).

Because context is crucial for understanding the ways in which emotion is expressed as well as the influence of that expression, we should carefully consider the value of separating out and examining specific components of emotional expression in relative isolation, as I am doing here by considering verbal and nonverbal emotional expression independently and in interaction. As Bavelas and colleagues (1990) point out, verbal and nonverbal emotional expressions occur in tandem and it is difficult to interpret the meaning of one without the other. However, to more fully understand the complete emotional expression within its broader context, it is an important step to first consider the separate, as well as the interactive, functions of each channel of expression. We may think about verbal and nonverbal expression as separate building blocks that combine, along with these other contextual features, to create the overall emotional expression. These building blocks may differ each time an emotion is expressed because of individual differences in verbal and nonverbal emotional expression (e.g., Kring et al., 1994),

because of the presence of other people, or because of the perceiver's past responses to a similar expression. Returning to our example above, your partner may, for a variety of reasons, say how they are feeling more directly ("I'm so glad they liked it") or they may be more circumspect ("It's over now, which is good"), and the same variation can occur in nonverbal expression. Closely examining these building blocks and how they may vary across different situations and relationships allows us to understand whether these channels of expression interact to serve different functions for the relationship, or whether each channel conveys information which is simply additive to produce the same, more amplified effect, as some have argued (Van Kleef, 2017). Regardless, the question of closely investigating these building blocks and how they interact within close relationships is a meaningful and clear place to better understand how emotional expressions function in relationships.

Overview of the dissertation

The goal of this dissertation is to address an overarching question asking how verbal and nonverbal emotional expressions differentially and interactively link to aspects of healthy, normally functioning relationships.

In the first chapter, I present a theoretical framework and a review of the literature that outlines the potential functions and consequences of verbal and nonverbal expressions of emotion within close relationships, with a particular focus on the functions they may serve in highly satisfied and committed relationships. This is a framework within which to understand the possible roles of the different channels of expression in strengthening close relationships, which lays the foundation for the remainder of the dissertation.

In the second chapter, I build off this framework to empirically investigate whether romantic partners *perceive* differential functions of verbal and nonverbal channels in ways that

match up with my theories. This is investigated through an analysis of as yet unexplored data from a rich dyadic sample of highly satisfied and highly committed romantic couples that I have collected¹. In the portion of this dataset relevant to this chapter, both partners from a romantic couple assessed their own and their partner's verbal and nonverbal emotional expressions as well as judged how intentional, sincere, genuine, and vulnerable their partner's expressions were. Examining the relationships between these different evaluations allows us to better understand the ways that individuals are attributing functions to their own and to their partner's emotions in naturalistic conversations. In short, I found here that couples achieve some amount of emotional interdependence and synchrony in these discussions, especially in discussions of positive, personally relevant topics. Further, an expresser who shares more emotion verbally is perceived to be more intentional and, at times, more sincere than one who shares less verbally. An expresser who shares more emotion nonverbally is perceived to be more sincere than one who shares less nonverbally.

I then turn from how aware relationship partners may be of the channels of expression and consider the antecedents and consequences of verbal and nonverbal emotional expression in close relationships in a series of two empirical chapters.

In the first of these two chapters (the third chapter overall), I examine several potential antecedents and/or consequences of verbal and nonverbal expressions, perceived partner care, trust in the partner, and commitment to the relationship, to see if any of these differentially predicts verbal and nonverbal emotional expression to the partner. For this chapter, I analyzed data from the same dyadic laboratory sample examining how perceived partner regard, or perceptions of the extent to which your partner cares for your welfare, separately predicted

¹ This data was collected in collaboration with Aleena Hay

verbal and nonverbal emotional expression. Briefly, I found limited evidence that expressers who felt more communally towards their partners also expressed more verbal and nonverbal emotions, and I also found robust evidence of the expressing partner projecting their communal strength onto the perceiving partner, suggesting an intra-individual (rather than an interpersonal) process. Further, I found evidence that expressers who trust their partner more also express more emotion both verbally and nonverbally.

In the second of these two chapters (the fourth chapter overall), I continue this examination of the consequences of emotional expression but shift this to a relationship initiation context. Here I am looking at the dynamics between expressers and perceivers who have just met and for whom there is presumed potential for a friendship or relationship to develop. From a theoretical standpoint, it is beneficial to assess these questions within a different relational context to better understand how verbal and nonverbal emotional expressions may function similarly, or perhaps differently, in a relationship initiation context compared to the context of an established close relationship. In this context, there is as yet unrealized potential for a long-term close relationship, and it provides an intriguing case within which to examine the processes that may have shaped the beginnings of the more established romantic relationships studied in the earlier chapters of this dissertation.

For this chapter, I ran an in-laboratory experiment² in which I manipulated an expresser's verbal and nonverbal expression of nervousness to assess how their expression might influence participants' helping behavior towards the expresser, perceptions of the expresser, and desire to pursue a relationship with them. In short, I find only that perceivers like an expresser more, in this particular context, when they express emotion nonverbally but not verbally.

² This data was collected in collaboration with Chance Adkins

Chapter 1- Spoken and shown: Verbal and nonverbal emotional expressions might serve different functions in close relationships

Introduction

Emotions are frequently expressed within social contexts (Fridlund, 1991; Morris & Feldman, 1996; Patterson, 2014; Russell, 2015). Further, they appear to be most frequently expressed when individuals are with close relationship partners whom they expect to be responsive to them (Rimé, 2009; Ruan et al., 2019; Von Culin et al., 2017), and this expression has been shown to be central for building, maintaining, and strengthening healthy close relationships (e.g., Algoe et al., 2013; Gable et al., 2004; Graham et al., 2008). Relationship scientists have a good understanding that emotions play substantial roles in maintaining healthy close relationships, but we do not understand how the *ways* in which individuals express emotion contributes to building these relationships.

I take this a step further to also acknowledge that there are other pieces of information, including what is happening more broadly in the situation (Kayyal et al., 2015; Aragon & Clark, 2018), the history of the relationship (Flora & Segrin, 2003; Lemay et al., 2012), the perceiver's own emotional state (Clark et al., 1984; Wormwood et al., 2018), and relevant individual differences (e.g. Noller, 1984) that can influence both the expression and the perception/interpretation of emotion within a relationship. The role of these inputs in moderating the impact of the emotion in the relationship will be described briefly later in the chapter.

I consider it vital that relationship scholars consider the different functions that verbal and nonverbal emotional expressions play in strengthening highly satisfied and functional close relationships if we are to fully understand the role of emotion in relationship functioning. In the present chapter, I start by discussing why I feel that it is important for social, emotional, and relational health that we examine this distinction. Next I present a theoretical framework to

understand the potential roles of nonverbal and verbal emotional expressions in relationships, with a particular focus on these roles in high-functioning, highly satisfied and committed couples, that builds on literature both within the field of relationship science and within the field of emotion more broadly. I then discuss potential inputs and antecedents to verbal and nonverbal expressions of emotion as well as differential consequences of each.

I conclude by suggesting caution in claiming generalizability of results examining emotional expression through one channel alone or holistically. Considering the differential (and often complementary) patterns of functions that verbal and nonverbal expressions likely have for building relationships should lead to interesting new predictions going forward and a careful re-examination of prior results.

I. Why does this distinction between verbal and nonverbal channels matter for relationships?

There are a number of reasons why it is important to examine the different roles that verbal and nonverbal expressions might play in strengthening relationships. First, there may be individual differences in the extent to which people express emotion through verbal and nonverbal channels (e.g., Kring et al., 1994). These may systematically influence how much emotion is expressed. If the two channels serve meaningfully different roles in building relationships, these trait differences in expression also could lead to differential impacts of expression within the relationship. Second, understanding the ways that emotions are expressed in relationships and the functions those different expressions serve can help us to improve relationships through targeting changes to those types of expressions (when they are problematic) through therapeutic interventions like Emotion Focused Couples Therapy (Johnson et al., 1999). Third, there is an important gap in the literature to fill given that scholars who have

studied emotional expression in relationships typically focus only on holistic expression, which both creates ambiguity about how these results might apply to specific emotional displays and leaves a gap in the theory of emotion in relationships concerning how emotion is expressed. Finally, understanding how verbal and nonverbal emotional expressions differentially function within relationships is not merely descriptive. I suspect there are clear consequences of expressions for individuals and for their relationships, particularly because of the responses they elicit from partners, and these consequences might differ across verbal and nonverbal channels.

A. Individual differences in nonverbal and verbal emotional expression suggest that the channels may have differential impact

The existence of scales to measure trait level nonverbal expressivity, as well as the numerous studies that have employed these scales to examine how nonverbal emotional expressivity relates to other traits or to behaviors (e.g., Gross et al., 1997; Pugh, 2001), imply that there is something unique about nonverbal expressivity, separate from verbal expressivity, that warrants examining at the trait level. The scales to which I refer include the *Affective Communication Test* (ACT, Friedman et al., 1980), the *Berkeley Expressivity Questionnaire* (BEQ, Gross & John, 1995), the *Diagnostic Analysis of Nonverbal Accuracy Scale* (Nowicki & Duke, 1994), and the *Emotional Expressivity Scale* (EES, Kring et al., 1994), among others. Items from these scales, such as, “Even if I am feeling very emotional, I don’t let others see my feelings” (Kring et al., 1994) or “I usually have a neutral facial expression” (Friedman et al., 1980) were designed to, when combined, generate individual difference scores for the respondent’s nonverbal emotional expression skills. Interestingly, to my knowledge, there is not a parallel scale aimed at explicitly measuring verbal expressivity skills.

Individual difference measures of nonverbal expressiveness suggest that there is variability in how much emotion people express through the nonverbal channel. Although we know of no individual difference measures for verbal expressiveness, we do assume there is variability in how much emotion individuals express through the verbal channel as well. In a related domain, it is already established that individual differences exist in the granularity of verbal emotion terms used, which has implications for both the experience of emotion (Lindquist, 2017) and the perception of emotion in others (Barrett et al., 2007; Gendron et al., 2012). Yet individual differences in the granularity of emotion terms employed within close relationships, especially in terms of labeling one's own and one's partner's emotions within dyadic interactions, requires further examination in future research.

Accepting that individual differences in emotional expressivity, both nonverbally and verbally, exist, researchers need to move toward exploring their implications for close relationships. For example, it might be that the emotional expressions of an individual who is highly nonverbally expressive and minimally verbally expressive appear more genuine in an interaction compared to an individual who is highly verbally expressive but minimally nonverbally expressive. It might also be that a person's verbal labeling of his or her own emotional experience enhances accuracy in emotion perception (with accuracy being defined as expressers and perceivers agreeing in their reports of the expresser's emotion) and reduces projection of emotion on the part of the perceiver.

Another individual difference often considered when discussing emotional expression is gender of the expresser and of the perceiver (Fischer & LaFrance, 2015). We have no conceptual reasons to predict that there are gender differences in expression within a close relationship context beyond those attributable to socialization and gender role identification (Perrin et al.,

2011), particularly in light of work that highlights that typical gender differences in emotion may be more nuanced and affected by methodology than they initially appear to be (LaFrance & Banaji, 1992). For example, LaFrance and Banaji (1992) present evidence that researchers often find evidence of gender differences such that women self-report expressing more emotion than men on direct self-report measures of emotional expression (e.g., Spielberger et al., 1979; Larsen & Diener, 1987, both as cited in LaFrance & Banaji, 1992), but not on indirect self-report measures of emotional expression such as creating a score of one's emotional expression from an open-ended speech (e.g., Stairs & Blick, 1979; McHugo et al., 1982, both as cited in LaFrance & Banaji, 1992). Based on this evidence, as well as other discrepancies in emotional self-report measures, the authors conclude that much of the gender differences found through self-report measures of emotional expression may be consequentially impacted by gender stereotypes about emotion (Plant et al., 2000). Disentangling what is a true gender difference in emotional functioning from that which is socially constructed and rooted in gender stereotypes is not a task within the scope of this dissertation, but we should, as relationship scholars, think more closely about how we interpret differences, particularly gender differences, in emotional expression.

B. Improving existing close relationships through influencing verbal and nonverbal emotional expressions

Whereas we consider the roles of these channels from our own theoretical perspective, there are other scholars who are making distinctions between these channels in applied settings. These include those who use Emotionally Focused Therapy for couples (Johnson et al., 1999), among others. Steps in this type of therapy involve focusing on one's emotional experience and expressing one's emotions verbally to one's partner. The focus of this therapy is on verbally communicating emotions to one's close relationship partner and on the partner responding in a

supportive, responsive manner. Couples who express their emotion in the direct, vulnerable way promoted by this therapy have more positive relational outcomes over the course of their therapeutic treatment compared to those who do not (McKinnon & Greenberg, 2017).

Clearly the therapeutic intervention strategies of EFCT, which rely on verbal expression, can benefit from further work delineating the specific roles that verbal and nonverbal emotional expressions serve in building close relationships. More clearly understanding how these channels uniquely and interactively serve these functions might provide clinicians with additional concrete tools to help their clients modify their own emotional expressions (and subsequent responses) to build their relationships. Even outside of a therapy context, individuals in close relationships can benefit from understanding the functions their expressions may serve and thinking consciously about how to adapt their expressions to benefit their relationships.

C. Existing work in relationships typically focuses only on holistic expression

Investigators often manipulate and/or measure emotion holistically, that is, in ways that likely capture both channels (verbal and nonverbal) without distinction. Moreover, even when relationship researchers have manipulated and/or measured emotion *just* through verbal or *just* through nonverbal channels, they often do not highlight this fact and instead draw conclusions about emotional expression and emotional perception broadly from their data on one channel. This leaves readers with the impression that the results will generalize to emotional expression from either channel, which remains an open empirical question. The implicit assumption is that the distinction between the channels does not matter; emotion is important for relationships regardless of how it is expressed.

For instance, scholars have suggested that emotional expressions within close relationships convey needs and elicit support from relationship partners (Clark et al., 2001;

Graham et al., 2008; Von Culin et al., 2017), which in turn helps to build and strengthen those relationships. But it is not clear from this work whether expression of emotion through any channel will elicit the same amount or kind of support. For example, Graham and colleagues (2008, Study 3) used a Likert scale with verbal endpoints tapping willingness to express fear, nervousness, and sadness to predict the elicitation of help, the development of intimacy, and the formation of new relationships. Higher scores on this measure did positively predict the formation of relationships, increased intimacy within the relationship, and increased levels of support from others. While compelling, would the same pattern emerge if participants were asked to clarify whether they would be willing to express emotion verbally or nonverbally? Does appearing (nonverbally) sad, anxious or nervous elicit help and relationship growth in the same ways and to the same extent that straightforwardly saying one is sad, anxious or fearful elicits help?

In addition to considering the relational functions of emotions without this channel distinction, scholars also have failed to account for the distinction when considering how much emotion is expressed in relationships. For example, Aune and colleagues (1994) have suggested that the intensity of experiencing and expressing negative emotion follows a curvilinear pattern across the span of a relationship wherein couples who have been together the shortest and longest amount of time express less emotion than those between those two time-points. This indicates that emotional expression is, in some way, linked to the longevity of the relationship. However, these researchers asked participants to report on which of a series of positive and negative emotions (verbally labeled for them) they had experienced, and "the intensity of the emotion experience, the intensity of the emotion expression, and the appropriateness of the emotion expression" (p. 145). Their results held for negative but not positive emotion. Yet it is

not clear if the channel of expression matters from this data, and we do not even know if participants were reporting on nonverbal expression, verbal expression, or both. The generality of the conclusions suggests to a reader that the results would apply to any type of expression of negative emotion, but the evidence is insufficient to support this generalization.

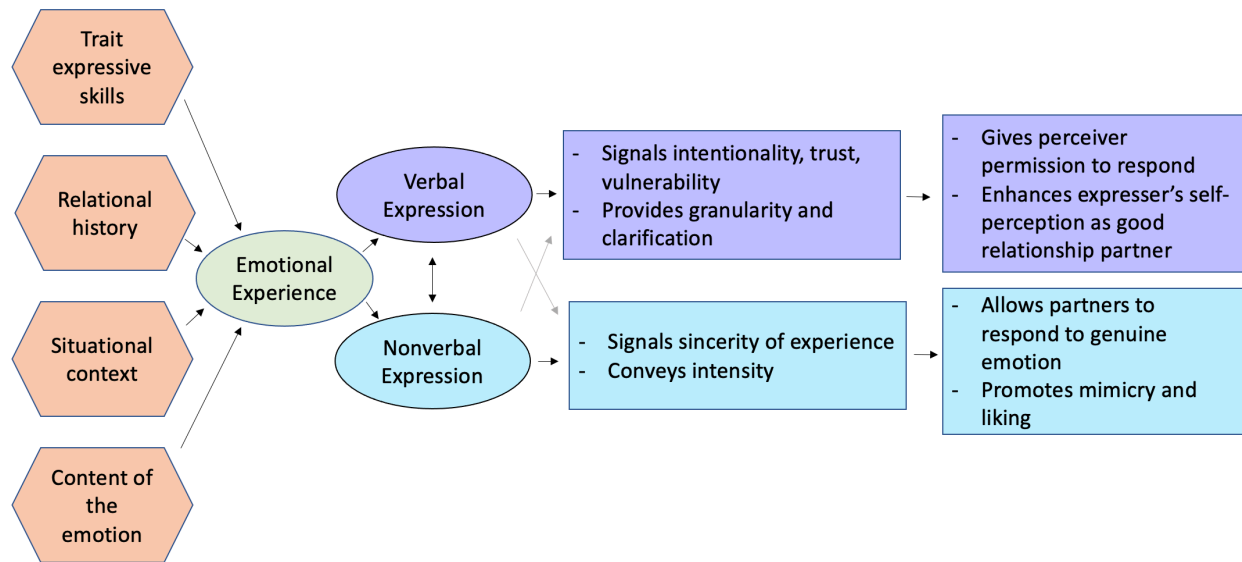
These examples and others (see also King, 1993 and Buck, 1989) illustrate how a re-consideration of prior work to separate emotional expression by channel allows for new questions, predictions, and explanations to rise to the surface. I draw on these examples also to make a methodological point. If the measures or manipulations of emotion in a study involve both channels, the true effects might be observed in just one or in both channels, each of which could have different consequences for the relationship. Similarly, if the measures involve just one channel, the results might fail to generalize to expressions involving the other.

II. Aims of the present work and overview of key points

Having now highlighted the importance of understanding the functions of verbal and nonverbal emotional expressions for close relationships, we aim in the remainder of this paper to highlight some potential differences in the functions verbal and nonverbal emotional expressions might serve in relationships, as well as the resulting possible consequences of expressing emotion through those channels for the individuals and the relationship. See Figure 1 for an overview of the proposed antecedents, functions, and consequences of these expressions. In this section, I will briefly walk through this figure before moving on to a more thorough discussion of the functions and consequences of expression through the channels in the next sections.

Figure 1

Proposed Model of the Antecedents, Functions, and Consequences of Verbal and Nonverbal Emotional Expressions in Close Relationships



In this chapter I will focus primarily on the right half of Figure 1: the portion corresponding to the proposed functions and consequences of verbal and nonverbal expressions for relationships. I include a model of the full, broader context within which emotion occurs in relationships to better situate these functions and consequences.

To start, there are a number of potential antecedents of emotional expression, which I will touch on in more detail later. These might include trait level individual differences in verbal and nonverbal expression (as described above), the history and health of the relationship (as well as each individual partner's prior relational history), features of the situation and the broader environmental context, and the valence, intensity, and target of the emotion. Each input likely feeds into creating an emotional experience, which then contributes to the expression of emotion through verbal and nonverbal channels. That being said, these antecedents also likely have a direct influence on the expression of emotion above and beyond their effect on the experience of

emotion. For example, if your boss were to criticize your work, you may feel sad but choose not to express that sadness within the context of a workplace where it is not normative to do so. But if your friend were to criticize your work, you may experience the same sadness but choose to express it in this different relational and social context.

We then predict that verbal and nonverbal emotional expressions, once expressed, serve distinct sets of functions (or possibly serve the same functions to varying degrees) for building the relationship. These functions then likely have differential consequences for the relationship. Although we propose here that these functions are distinct, it is also likely that the different channels serve some of the same functions in highly satisfied couples where expression is likely to be congruent in meaning across the channels, although this remains to be empirically explored later in the dissertation. Further, we anticipate that the channels interact with one another in serving these functions and impacting the health of these relationships.

The functions of verbal emotional expressions

I. Hypotheses about the role of verbal emotional expressions within a close relationship context

In a close relationship context, verbal emotional expressions may be particularly clear signals to perceivers that the expresser is intentionally conveying an emotion to their partner, which, in turn, suggests a multitude of consequences for both the expresser and the perceiver, see Table 1 for an overview of the functions of verbal expressions. Verbal expressions may convey a sense of openness on the part of the expresser towards the perceiver by illustrating that the expresser is willing to be vulnerable with the perceiver and trusts the perceiver. Unlike a nonverbal expression of an emotion, say a frown, one cannot easily deny that one expressed an emotion verbally given that a verbal expression is a clear articulation of emotion. Expressing

emotion verbally may also constitute a particularly effective invitation to the partner to provide help, support, and, in the case of happiness, to capitalize on the expression of emotion (Gable et al., 2004). Once expressers reveal an internal state so explicitly, they leave themselves vulnerable to perceivers' reactions to that expression, whether good or bad³.

Table 1

Proposed functions of verbal emotional expressions for building close relationships

-
1. Signals that the expresser *wants* the perceiver to know what the expresser is feeling and, implicitly, gives the partner permission to respond.
 2. Signals that the expresser trusts, values, and is willing to be vulnerable with the perceiver.
 3. Helps the perceiver to clearly understand the expresser's affective experience in a more granular and clarified way by helping the perceiver to construct the expresser's emotional experience (Barrett, 2004; Barrett et al., 2007).
 4. Helps the expresser to make better sense of the expresser's own emotional state through expression (Barrett, 2004; Lindquist & Barrett, 2008; Pennebaker, 1997).
-

Note. I do not suggest that these are the exclusive functions of verbal expressions. I am instead suggesting that relative to the nonverbal channel, the verbal channel serves these functions to a *greater* extent.

Although we propose that a primary role of verbal expressions in relationships is to signal that the expresser is intentionally expressing, there are likely contexts in which the function and perception of the verbal expression shifts. For example, a particular situation (e.g., visiting a haunted house, witnessing a tragic accident) may cause an expresser to experience an intense and

³ This vulnerability may be dependent on the emotion expressed. We do believe that both positive and negative emotions reveal vulnerabilities and leave one open to a partner's helpful or harmful response (cf. Von Culin et al. 2017). However, there are some emotions, like anger, that may reveal less personal vulnerability and may, in fact, be targeted to hurt the partner. We do not think that verbal expressions of emotions such as these would likely play the same role.

irrepressible emotion, such as fear or sadness, which may result in an immediate expression of emotion through both verbal and nonverbal channels. In such situations in which sudden and intense emotion is experienced, the perceiver may then understand the constraints of the situation and acknowledge that a verbal expression of emotion made in this particular context may not be voluntarily expressed nor indicative of the expresser's intentions.

In addition to these functions, verbal expressions of emotion also may be especially helpful to both the expresser *and* the perceiver to clarify and to understand the emotion being experienced. Pennebaker (1997) discusses how writing about a traumatic event by journaling about the experience can have therapeutic effects for the expresser and can help the expresser to better understand the event and the emotions. By forcing the writer to label their emotions and to describe the experience verbally, journaling allows the writer to come to terms with the experience and its impact. Although Pennebaker focused on solitary, written expressions of emotion, these same effects ought to extend to oral verbal expressions within a close relationship context in an interesting and important way. That is, within a close relationship, verbal emotional expression may be allowing both the expresser *and* the perceiver to use verbal labels to better make sense of the emotional experience of the expresser, and, importantly, to create a shared interpretation of the expresser's emotional experience.

In addition, scholars have provided considerable evidence that verbal labels for affective experiences are central to people being able to construct, label and understand their own emotions (Gendron et al., 2012; Lindquist et al., 2006) as well as the emotions they perceive in others (Lindquist et al., 2014). Scholars posit that language, particularly verbal emotional terms, provides a layer of context that helps perceivers better understand the emotions they are perceiving because an expresser typically must consciously choose the appropriate emotion term

from ones they have learned (Lindquist & Barrett, 2008; Ridgeway et al., 1985). Lindquist and Barrett (2008) describe how individual differences in emotional granularity, which involves using more or less fine-grained terms to describe one's affective state, relate to emotional complexity in how one understands and describes one's own emotional states. For example, individuals who have more emotional granularity might demonstrate greatly differentiated use of terms such as "happy" compared to "content," whereas individuals with less emotional granularity might use the term "happy" to refer more broadly to positively valenced affective states. With greater emotional granularity and complexity, an expresser is able to utilize more specific verbal affective terms to describe a current emotional state, which, in turn, helps the expresser to better understand and conceptualize the emotion (Lindquist & Barrett, 2008).

Combining work by Pennebaker (1997) on the positive impact of writing about trauma with the benefits of emotional granularity and complexity (Barrett, 2004; Lindquist & Barrett, 2008) suggests how expressing more emotion verbally might have direct benefits for the expresser. That is, expressing emotion verbally and using more varied emotion terms may benefit expressers by helping them to better conceptualize and understand the emotional experience. We also wish to emphasize here that, on the *perceiver's* side, Barrett and colleagues' (2007) discussion of how linguistic emotional abilities impact perception of others' emotional expressions suggests that verbal emotional expressions also may assist *perceivers* in constructing and understanding the emotional experience of the expresser. Again, see Table 1 for an outline of each of these functions of verbal expressions of emotion.

II. Evidence in extant literature for these proposed functions

A. Verbal emotional expressions outside of a close relationship context

The psychological literature specifically on verbal expressions of emotion is fairly small, but there is some work that touches on the benefits of expressing emotion verbally through writing about emotional events. For example, as highlighted above, work by Pennebaker and colleagues (Pennebaker, 1997; Pennebaker & Beall, 1986; Pennebaker et al., 2001) highlights the importance of verbal communication emotions through journaling as well as the value of understanding the reasoning behind these emotions. However, journaling is private; whether putting one's emotional experiences into words and expressing them to a partner has equivalent effects is unclear, although I expect that it would.

Journaling constrains the expression of emotion to only the verbal channel, but there are other forms of communication that similarly constrain emotional expression. This work is not directly comparing emotional expression between situations where both channels are available (such as in-person conversations between individuals) to situations where only one channel is available (such as journaling, text messaging, etc.). However, this research can still give us a sense of the descriptive qualities of verbal or nonverbal expression when only one channel is an option, which may signal something about the functions of that one channel. For example, Hancock and colleagues (2007) assessed differences between the expression of positive and negative emotions in computer mediated communication, where conventional nonverbal expression is not possible. The authors describe how participants, when restricted to verbal text, reported using a number of strategies to convey emotion, including modifying the amount with which they agreed or disagreed with what an interaction partner was saying (participants conveying a positive emotion reported agreeing more than those conveying a negative emotion). The authors also used LIWC (Pennebaker et al., 2001) to assess the conversations and found that, among other things, participants expressing a negative emotion used more affect terms compared

to participants expressing a positive emotion. Whereas the authors also describe some strategies that may be considered nonverbal expression, such as changing the rate at which they responded to messages (responding more quickly when communicating positive emotion compared to negative emotion) or use of exclamation marks, the changes to the actual semantic content indicates something intriguing about how we express emotion when only the verbal channel is available. Specifically, it indicates that there may be a kind of verbal accommodation (above and beyond just using stronger and more emotionally laden language) when nonverbal expression is unavailable, although the lack of a comparison group in this study with access to both channels of communication makes it difficult to assert this claim. This suggests something about the interactive effects of the channels of expression as well as about the potential influence of nonverbal cues. In the absence of nonverbal cues, we may feel the need to compensate for their impact by increasing our verbal expression⁴. It might even be that we typically augment one channel when it is expressed in isolation, regardless of which channel it is.

Although this work examines verbal expressivity through the lens of constrained communication where only the verbal channel is available, it provides a glimpse into how verbal emotional expressions might function for augmenting our interpretation of an emotional experience.

B. Verbal emotional expressions within close relationships

⁴ Note that we have not discussed other ways through which we may compensate for the constraints of computer mediated communication, such as using “emojis” as a form of communication. “Emojis” represent an intriguing form of communication that is potentially nonverbal (but also potentially verbal) and that requires further consideration, particularly because all communication done on computers or other devices could be perceived as intentional, including “emojis.”

Parallel to the work on verbal expression more generally, there has been relatively little psychological work on the role verbal expressivity specifically plays in building and maintaining close relationships. That said, some relevant work exists within other fields, such as communications and linguistics (e.g., Aune et al., 1994; Floyd, 1997; Morman & Floyd, 1998).

Considering work that touches on verbal expression in relationships, self-disclosure is a reasonable place to begin as one is likely to express emotion verbally when engaging in self-disclosure to a partner (Miller et al., 1983). Although emotional expression is only one aspect of self-disclosure, which may also include personal details, revelation of personality traits, and personal history, among other things, emotional expression falls under the umbrella of self-disclosure and therefore may elicit the same benefits as any other kind of self-disclosure. In a close relationship or potential close relationship context, self-disclosure has been shown to correspond to greater liking, both in the direction of a discloser liking the recipient and of a recipient liking the discloser, which in turn is beneficial to a high-functioning relationship (Collins & Miller, 1994).

Additionally, the process model of intimacy outlines how partners build intimacy in their relationship when an expresser discloses emotions to their partner and their partner responds with care and encouragement (Reis & Shaver, 1988). This creates a cycle of expression and support whereby the partners become closer based on their mutual vulnerability in self-disclosure and the ensuing responses.

Beyond work highlighting that verbal expression may increase liking and build intimacy in relationships, there are also some scholars who focus on specific verbal emotional phrases, such as the phrase “I love you.” Whereas the work on declaring love (which can be considered an expression of emotion, although love has been conceptualized in many other ways as well) is

intriguing, the expression of love to close partners also represents a milestone in the relationship that may be prognostic for the relationship's future and therefore is a particular case of emotional expression with a different set of implications for the relationship and for the partners. As such, we cannot presume that the implications from the expression of love will extend to other emotional expressions, but it may still be informative.

The specific phrase "I love you" has been examined for its significance and timing within both established and developing relationships. Cross-culturally, researchers have illustrated that the phrase "I love you" typically carries greater value in a multilingual speaker's native language compared to in languages acquired later (Dewaele, 2008). The author speculated that the phrase carries more emotional weight in one's native language because we have a better formed conceptual representation of what those specific words mean to us in our native language. It is likely that the relational context also matters, such that the interaction between the language spoken and the target partner is important. We might be more likely to say "I love you" to a close relationship partner, such as a spouse or a family member (with whom we are likely to communicate in our native language), than we are to say it to a more distant relationship partner, such as a friend or colleague.

In the communications and linguistics literature, researchers have highlighted an intriguing interaction between gender and relationship type on use of the phrase "I love you." Floyd (1997) found that individuals perceive affectionate behavior, including saying "I love you," to be more appropriate for women than for men and that men perceive affection to be more appropriate towards a sibling than towards a friend as well as in mixed-gender groups rather than in same-gender groups (see also Morman & Floyd, 1998).

Examining the impact of this emotional phrase on close relationships from a psychological perspective, Ackerman and colleagues (2011) found that men and women exhibited different emotional reactions to receiving a declaration of love from their partner based on the timeline of their romantic relationship, here indexed by whether the couple had yet engaged in sexual behaviors or not. The authors found that women, compared to men, reacted more positively to hearing “I love you” from their partner after the couple had engaged in sex, but that the reverse was true prior to the couple having sex. Putting aside any gender differences, as these may be more salient with such a culturally and relationally significant phrase compared to other forms of verbal expression, it is clear from this work that saying “I love you” to a relational partner holds weight for the relationship and might influence a partner’s reactions and, thus, the future of the relationship.

This work on declarations of love leads to other questions about verbal expression in relationships more broadly, including whether other verbal expressions of emotion might be signals of relationship progress and trajectory, albeit perhaps to a lesser extent, because they indicate a dropping of self-protection and vigilance. First verbal expressions of other emotions be also be relationship status markers (e.g., the first time a person verbally expresses what makes them sad, happy, angry or anxious). Despite the obvious importance these expressions may have for close relationships, researchers have often not focused on this channel of expression.

The functions of nonverbal emotional expressions

I. Hypotheses about the role of verbal emotional expressions within a close relationship context

Based on the idea that nonverbal emotional expressions convey that an emotion is genuinely felt (e.g., Porter & ten Brinke, 2008), I first propose that nonverbal emotional

expressions communicate the sincerity of an emotional experience, see Table 2 for an overview of the proposed functions of nonverbal expressions. Relatedly, I also suggest that nonverbal expressions communicate the intensity of the emotion being experienced through the amount, strength, and variety of nonverbal cues being employed.

Table 2

Proposed functions of nonverbal emotional expressions for building close relationships

-
1. Signals that the expresser is sincerely and genuinely experiencing the emotion.
 2. Conveys the intensity of the felt emotional experience.
 3. Promotes and elicits mimicry, which encourages synchrony and liking.
-

Note. I again do not suggest that these are the exclusive functions of verbal expressions. I am suggesting that relative to the nonverbal channel, the verbal channel serves these functions to a *greater* extent.

In addition to nonverbal expressions conveying the sincerity and intensity of emotion felt, I propose that they also play a special role in eliciting synchrony of expressions, and, in turn, synchrony of emotions between partners. In a variety of relational contexts, people mimic one another's facial expressions (Chartrand & Bargh, 1999), postures, gestures, and motor movements (O'Toole & Dubin, 1968). This starts in infancy (Meltzoff & Moore, 1977), and often occurs with little awareness (Dimberg & Thunberg, 1998). Mimicry of paralingual aspects of vocalizations also occurs, including accents, speech rate, and quickness of responding (Cappella & Planalp, 1981; Giles & Coupland, 1991). People sometimes mimic actual word use itself (Levelt & Kelter, 1982), but most mimicry seems to be of nonverbal behavior. This synchrony then likely promotes liking between partners.

II. Evidence in extant literature for these proposed functions

A. Nonverbal emotional expressions outside of a close relationship context

Although there is evidence that some nonverbal emotional expressions can be controlled and employed strategically (LaFrance et al., 2003; Rychlowska et al., 2017), the prevailing lay interpretation likely is that nonverbal expressions are less conscious, less controlled, and more spontaneous forms of emotional expression than are verbal expressions. Although, to our knowledge, there are no studies directly supporting this idea, work on deception and verbal and nonverbal cues that are discordant in meaning with one another (e.g., Ekman & Friesen, 1969; ten Brinke & Porter, 2012; Vrij, 2008) hints at this. The paradigm this work is based upon is one in which the perceiver attempts to decrypt a disingenuous message being conveyed by an expresser. To do this, the perceiver must identify and interpret the clues to the true emotion and message, and these researchers have pinpointed (both theoretically and empirically) specific nonverbal expressions that serve as these clues. This suggests that perceivers interpret some nonverbal expressions to be genuine and harder to control compared to others and compared to verbal expressions. For example, ten Brinke and Porter (2012) examined tapes of individuals pleading for assistance in locating missing loved ones. They found that several nonverbal emotional cues, such as facial expressions of disgust and happiness, were seen by trained coders more often on those who actually had played a malevolent role in their loved one's disappearance than on those who had not. Thus, the individuals who were being deceptive on the tapes when pleading for the return of a missing loved one that they had actually been involved in harming were displaying nonverbal signals to this deception and to their true emotions.

The primary conclusion from this literature is that when the verbal and nonverbal channels are discordant in message and emotional tenor, perceivers attend more to the nonverbal messages than the verbal messages to decode the expresser's true emotions (Ekman & Friesen, 1969; Noller, 1985; ten Brinke & Porter, 2012; Vrij, 2008). We can then suppose that the

nonverbal channel conveys something about the *authentic* truth more so than the verbal channel does, and perhaps even regardless of what the verbal channel conveys.

However, it is also important to consider what the functions of the different channels might be when the channels are concordant (meaning the same emotion or the same emotional valence is communicated through both channels), as we suspect they often are in communications within well-functioning close relationships. As discussed elsewhere (Clark & Mills, 2012), close relationships, such as pairs of romantic partners, close friends, and family members, are likely to be communal in nature, meaning that people are likely to be mutually responsive to one another's needs and desires and that they do so in a non-contingent manner. Importantly, individuals in well-functioning, communal relationships are likely to be expressing less deceptive and more congruent messages to their partners than individuals in other relational contexts. It is important to consider the different roles that verbal and nonverbal emotional displays play within these interactions, as we cannot be certain that the roles the two channels play in conveying messages through discordant displays (such as those involved in deception) carry over to concordant ones.

When faced with an expression of emotion that is concordant between the two channels, it is reasonable to assume that perceivers also interpret nonverbal expressions to convey how genuinely, sincerely, or intensely an expressed emotion is being felt. Related ideas have been attributed to Watzlawick and colleagues (1967, as cited in Noller, 1984), who contend that whereas the verbal channel likely conveys the purpose and the content of a message, the nonverbal channel may illustrate what the expresser's attitude is towards the perceiver as well as how the perceiver should interpret the message being conveyed.

B. Nonverbal emotional expressions within a close relationship context

A handful of relationship scholars have examined the distinct channels of expression within close relationships, primarily focusing on the nonverbal channel. Most such research has occurred within a clinical context involving studying and/or treating distressed couples. In a series of studies, Gottman and colleagues examined the role of nonverbal expressivity in facilitating relationship decline, often in married couples (e.g., Gottman et al., 1977; Gottman, 1980; Gottman & Porterfield, 1981). Gottman and his colleagues typically had independent coders evaluate each partner's nonverbal behavior during a conflict discussion. They focused particularly on each individual's expression of negative emotion so as to isolate hurtful behavior and signals of poor relationship functioning. Operating from a clinical lens, Gottman and his colleagues often focused on using nonverbal behavior, such as the reciprocity of negative affect within a conversation, to distinguish clinically distressed and dysfunctional relationships from high-functioning ones. For example, Gottman and colleagues (1998) brought newly married couples into the lab and had them discuss a source of conflict in their relationship. Based on self-reported perceptions from each partner, Gottman and his colleagues determined that how much each partner expressed high-intensity negative emotion (which included expressions of belligerence, defensiveness, and contempt) positively predicted the couple's chance of divorce. However, the presence of these expressions did not reliably distinguish between satisfied and unsatisfied couples who did *not* get divorced. In a similar study, Gottman and colleagues (1977) determined patterns of behavior that would distinguish between distressed and non-distressed couples, again in conflict discussions. Objective coders evaluated the content of the messages, the nonverbal behavior of the expresser, and the nonverbal behavior of the perceiver. The authors found that distressed couples were more likely to enact behaviors such as pairing "mindreading" statements (failing to ask the partner what they are feeling or thinking and instead presuming to

know) with negative nonverbal affective cues. These findings, and many others by Gottman and his colleagues, identify negative and detrimental nonverbal behaviors that occur in couples. Whereas this has useful applications for improving clinical interventions for dysfunctional couples, we aim to move beyond such categorical predictions to understand the patterns of nonverbal behavior that may strengthen and maintain well-functioning close relationships.

Around the same time, Noller and her colleagues also were investigating the role nonverbal behavioral patterns play in distinguishing high-functioning close relationships from those in need of clinical intervention. In much of this work, they focused on teasing apart encoding (the skills of the expresser) and decoding (the skills of the perceiver) issues within couples to see how problems with these skills might relate to the couple's satisfaction and marital adjustment (Noller, 1980; Noller, 1984; Feeney et al., 1998). For example, Noller (1980) examined the encoding and decoding capabilities of couples by having one member of the couple deliver an ambiguous message to their partner using either positive, negative, or neutral nonverbal cues while their partner attempted to decode the message. Noller found that wives were, overall, better encoders of these messages than were husbands, and that husbands were particularly poor at sending positive messages. Furthermore, husbands who were in a poorly functioning marriage, as indexed by a measure of marital adjustment (*Marital Adjustment Test*, Locke & Wallace, 1959, as cited in Noller, 1980), were even worse at sending positive messages than those in higher functioning marriages. As with Gottman and colleagues' work, Noller and colleagues' identification of the aspects of the nonverbal communication cycle that can go awry in marriage provides an intriguing profile of how to distinguish couples who are in need of clinical intervention from those who are not. Whereas this is useful, it is also important to understand

how patterns of nonverbal encoding and decoding may occur in high-functioning relationships and how these behaviors may serve to strengthen and build relationships.

We believe there is much to be gained from examining higher-functioning couples and from investigating their patterns of nonverbal behavior. If beneficial patterns are identified, these too may be thought about in a clinical context, possibly resulting in interventions to help alleviate some issues in clinically distressed couples by promoting good practices (in addition to eliminating poor ones), which might have to be explicitly explained and taught.

Consequences of expressing emotion in close relationships

By conveying their needs to partners, expressers enable partners to respond to those needs (Berscheid, 1983; Reis & Clark, 2013; Ruan et al., 2019). These responses can be either helpful or harmful, and likely will vary in the degree to which they benefit the expresser and the relationship. Further these responses and their downstream impacts on the relationship are the primary consequence of verbal and nonverbal emotional expression in relationships. There are many examples of this responsiveness, but a clear one is offering physical affection and comfort to a close relationship partner who is obviously distressed. This helpful response stands in contrast to a harmful response of, for example, sneering at them and exclaiming that they “shouldn’t be so sensitive.” There are, of course, a spectrum of responses that a close relationship partner can make in the wake of an emotional expression, many of which may not be labelled categorically as helpful or harmful.

The channel of emotional expression, because it may signal something about either the expresser or about the relationship, may impact how a perceiver responds to an emotional display. Preliminary support for this idea comes from a study done by Graham and colleagues (2008, study 2), in which the authors examined the relational benefits of expressing negative

emotions. Graham and colleagues found that participants gave more help to an expresser who expressed nervousness through both verbal and nonverbal channels compared to an expresser who shared their nervousness through the nonverbal channel only or not at all. In this study, the nonverbal channel may have signaled that an emotion was genuinely and sincerely felt, which may have indicated to the perceiver that the expresser had a need that was not being currently met. However, nonverbal expression alone was not enough to elicit help; an accompanying verbal expression was required to elicit helping. This may be because verbal expression indicates that the expresser *wants* the perceiver to know how they feel, which gives the perceiver permission to respond to the emotional display.

I. **The relational benefits of expressing emotion nonverbally**

Given that nonverbal emotional expressions illustrate that an emotion is genuinely and sincerely felt, these expressions likely strengthen the relationship by allowing for an honest expression of needs and desires and by giving the perceiver an opportunity to attend to those needs and desires. It is likely that nonverbal expressions are most useful in conveying the intensity of genuinely felt emotions and, as such, they may be important to utilize in combination with verbal requests to ensure that verbal expressions are perceived to be sincere.

The consequences of nonverbal mimicry are important to consider, as facial mimicry contributes to interaction partners experiencing matching affective states (McIntosh, 2006; Hess & Blair, 2001). Mimicry further produces synchrony of behavior and affect (Hove & Risen, 2009) and is known to increase liking and felt closeness between people (Chartrand & Bargh, 1999; Chartrand et al., 2005; Lakin et al., 2003; van Baaren et al., 2004) which, in turn, further increases mimicry (Stel, M., Van Baaren, R. B., Blascovich, J., Van Dijk, E., McCall, C., Pollmann, M. M., van Leeuwen, M. L., Mastop, J., & Vonk, R., 2010). Much mimicry of

nonverbal behavior is likely to occur automatically, but so too may it occur in more intentional ways and take the form of emotional appraisals of situations (Wróbel & Imbir, 2019).

We suggest that in forming and maintaining close relationships, nonverbal expressions of emotion likely play an especially important role by eliciting synchrony of emotion and behavior (Butler & Randall, 2013; Kimura & Dibo, 2006), and that this synchrony and emotional contagion (Hatfield et al., 1993), in turn, promotes empathy, liking, and the growth and maintenance of affection between individuals.

II. **The relational benefits of expressing emotion verbally**

From the perceiver's perspective, a verbal expression of emotion likely conveys that the emotion is being intentionally expressed and, importantly, that the expresser wants the perceiver to react. So too may verbal expressions be especially likely to convey that the expresser trusts and likes the partner. These messages then likely strengthen the relationship between the expresser and the perceiver given that they signal how much the expresser trusts the perceiver and how much they are willing to be vulnerable by expressing emotion in an undeniable way.

Further, when one needs direct help from a relationship partner, an intentional verbal expression of emotion to that partner may be most effective, as compared to a nonverbal expression to the same partner or a verbal expression directed more broadly to anyone present. This is because a verbal expression directed at a specific person clearly communicates that the expresser wants *that* perceiver to know how they are feeling and grants *that* perceiver permission to respond to the expression directly. A nonverbal expression, which can be more ambiguous, or any expression directed at a group of people more generally, leaves open the question of whether and how the specific partner should respond to the emotional expression. This creates the possibility for diffusion of responsibility amongst those present (Latane & Darley, 1968),

including the relationship partner, and likely also decreases the extent to which that partner feels specifically trusted or liked by the expresser.

From the expresser's perspective, one's verbal expression of emotion may be a conscious and intentional display of emotion. In that case, this verbal expression may strengthen the expresser's feelings about the relationship by bolstering the expresser's own perception (through self-perception) that the expresser trusts their partner and cares enough for their partner to be vulnerable with them (Bem, 1972). Based on their behavior of disclosing emotion to their partner in a vulnerable and undeniable way, the expresser may perceive themselves as a good relationship partner.

The interaction of verbal and nonverbal emotional expressions in close relationships

Much of the discussion of the channels of expression thus far has focused on the two channels independently. However, the channels almost certainly do not operate fully independently, and this likely produces additive effects as well as interactive effects. There is evidence, for instance, in the work by Graham and colleagues (2008) that only a combination of verbal and nonverbal expressions of nervousness may produce meaningful help compared to just nonverbal expressions or no expression. It is important, therefore, to consider what effect expressions of emotion through the different channels have on each other when they work together. Sometimes the effect of expressing an emotion may be additive, wherein an emotion expressed through one channel is augmented by the amount it is being expressed through the other channel, as Van Kleef (2017) argues. Sometimes the effects may be redundant, with communication in each channel merely conveying the same information (and perhaps each being substitutable for the other). Alternatively, and based on the aforementioned functions, sometimes it may be that the channels of expression have interactive effects. There is some preliminary

evidence (Armentano & Clark, 2017) that viewing an expression of emotion that is high in positive or negative nonverbal expression significantly increases how much verbal expression people perceive in that emotional display, and that viewing an expression of emotion that is high in positive verbal expression significantly increases how much nonverbal expression people perceive. These results demonstrate some evidence for an interactive effect of the two channels, at least on perception of emotion.

In addition, it may be the case that the channels interact in such a way to help us interpret ambiguous messages from one channel using information from the other channel. It may be that we use nonverbal expressions to help us to interpret verbal expressions when the verbal expression is ambiguous in some way or when we do not believe the verbal expression, as is suggested by results from the deception literature (ten Brinke & Porter, 2012; Vrij, 2008). Furthermore, the opposite effect also may occur, where we use verbal expressions to help us to decode nonverbal expressions if they are ambiguous. For example, a friend may enter a room crying and their partner may have no relevant situational cues to discern whether the friend is crying tears of joy or tears of sadness. The friend may disambiguate this expression with an explicit verbal label by declaring happiness or sadness either directly or indirectly (e.g., "I was accepted by a graduate program!" or "I just lost my job!"), or we may attempt to apply that label for them or ask them for verbal clarification.

Differing levels of verbal and nonverbal expressions may play a role in how perceivers process and react to an emotional display, but we will not be able to understand this if we do not consider the channels independently, if only with the caveat that they must be put back together again to discern the complete pattern (Bavelas et al., 1990).

Inputs on verbal and nonverbal emotional expressions

As highlighted in Figure 1 a number of different inputs may contribute to emotion being expressed through verbal and nonverbal channels, including each partner's trait verbal and nonverbal expression skills, the couple's relational history (as well as the individual histories of each individual partner outside of that relationship), features of the situation and environment, and the content and valence of the emotion. This is not an exhaustive list, and these inputs are likely to vary in their strength, number, and impact across different situations and contexts.

While it is not a focus of this chapter to delve into these different inputs, I want simply to highlight the importance of considering these contextual features and to present a few preliminary ideas about how these inputs might shape expression.

I. Trait verbal and nonverbal expression skills

As discussed at the outset of this chapter, individual, trait level differences in verbal and nonverbal emotional expression produce measurable differences in how much emotion an individual expresses through each channel (Friedman et al., 1980; Gross & John, 1995; Kring et al., 1994; Nowicki & Duke, 1994). These individual differences and their consequences may be particularly salient in a close relationship context, especially if the individuals are highly interdependent. Given that emotion within a relationship is inspired by interruptions of routines and expectations (Berscheid, 1983), variability between partners in the extent to which emotion is expressed may create opportunities for further emotion to be felt within the relationship, as well as for downstream consequences for the individuals or the relationship to arise. For example, if one partner is more verbally expressive than another, this may cause the less expressive partner to feel constantly downtrodden by their partner's articulation of negative emotions. This may be particularly apparent as relationships are initially building and partners

are acclimating to one another's expressive styles prior to becoming more emotionally similar as the relationship further develops (Anderson et al., 2003).

II. Relational history

Features of the couple's relationship, including how long they have been together, significant events in the history of their relationship, and their overall relationship health, will also likely influence the extent to which each individual expresses emotion verbally and nonverbally. There is evidence that perceptions of the couple's relational history and development is directly related to perceptions of their relational health. Further, it also predicts future relationship stability and satisfaction (Flora & Segrin, 2003).

It seems likely that these links could also be found between relational history and each partner's expressive behavior through verbal and nonverbal channels. For example, as will be investigated in later chapters of the dissertation, the extent to which partners are highly committed to one another and to the relationship will presumably be related to how much emotion each partner is willing to express. This might be particularly true for the verbal channel, with greater commitment likely being related to more verbal expression because it is so vulnerable and undeniable.

III. Situational context

There are a vast number of situational features that might contribute to how much emotion is expressed through verbal and nonverbal channels. These could include different motivations and goals of both the expresser and the perceiver, the specific relational context between the expresser and the perceiver, how many other people are in physical proximity to the dyad, the nature of the relationships between the members of the dyad and these others, aspects of the physical location and the activity in which the individuals are engaged, and many more. It

is clear that these different situations and contexts might influence how much emotion is expressed, and the ways in which that emotion is expressed verbally and nonverbally.

As one example, even in highly communal close relationships there may be instances in which relationship partners exaggerate their own needs to elicit greater caring behavior from a partner (Mills & Clark, 1986). The expresser may do this by amplifying nonverbal emotional cues, such as tears, and these amplified cues may (or may not) be correctly interpreted as partially disingenuous and exaggerated by the partner. This would represent the specific context where an expresser has a goal to manipulate their partner for personal gain, which might differ from their goals in other situations or with other partners.

To give another example, in mimicry of nonverbal behavior (and verbal, to the extent it occurs), the relational context between the mimicker and their target is important to consider (Clark et al., 2017). There are some situations and relationships in which mimicry is a reasonable expectation, such as that between an instructor and their students (LaFrance, 1979). In this case, one might expect that a teacher serves as a positive role model and a trusted adviser, and that mimicry of this mentor is just another way that a student is learning from the instructor and signals that a student is invested in the instructional process. In other relational contexts, we begin to see the limits on these phenomena, such as how people do not like being mimicked by outgroup members (Likowski et al., 2008) and they do not mimic those whom they do not like (Stel, M., Blascovich, J., McCall, C., Mastop, J., Van Baaren, R. B., & Vonk, R., 2010). Taking this one step further, Leander and colleagues (2012) even find that being mimicked in a context that is not affiliative or being mimicked by an outgroup member can be so off-putting to the target that they feel physically colder afterwards. This work provides strong evidence that being mimicked is not a universally positive experience that would increase intimacy and a sense of

similarity between any two individuals. Rather, mimicry may only be desirable, positively received, and functional (in terms of increasing liking and perceived similarity) in contexts where individuals trust, like, or desire a relationship with the other person. In the kind of close relationships I am considering in this dissertation, namely those that are high in trust, satisfaction, and commitment, mimicry may be an important mechanism for communicating affiliation nonverbally in a way that it may not in other types of relationships. We should therefore expect to see some degree of nonverbal mimicry and, potentially, greater nonverbal expression broadly as partners engage in this mimicry.

IV. Content and valence of the emotion being expressed

Although, again, we assert that there is no direct link between emotional experience and expression given that there are intervening factors impacting how an emotion is expressed (Barrett et al., 2019), the valence as well as features of the specific emotion being experienced, and by extension, being expressed, are likely influencing how this emotion is expressed verbally and nonverbally.

It is easy to conceptualize how expressing a negative emotion may indicate a need to which one's partner can react. However, because positive emotional expressions can also signal need states, specifically needs to persist in an activity, to have another person share one's excitement, or to celebrate (Gable et al., 2004), positive expressions also leave an expresser vulnerable to their partner's helping or harming reactions. Although we do not typically perceive positive emotions as being expressions of needs, we often express our excitement or joy in order to elicit our partner's capitalization so that we can share this joy and so that our emotion will be intensified and/or prolonged (Gable et al., 2004). So too may expressing our joy signal to a partner that they should continue to do (or repeat doing) whatever made us happy or,

alternatively, they should not interrupt whatever is occurring that made us happy. This expression does leave us open to the partner's rejection of that positive emotion or to their down regulation of that emotion (Gable, 2017), rendering us vulnerable to the effects of that reaction. Moreover, expressing positive emotions (as well as negative emotions) has been linked to perceiving that one's partner cares about one (Von Culin et al., 2017).

Because verbal expressions are more direct and undeniable in nature, partners who are not responsive to a verbal expression are likely to hurt the expresser more than those who are not responsive to a nonverbal expression, where the "request" for support is more indirect. Thus, if the expresser is sharing an emotion that is particularly strong, especially impactful to the expresser, or that is related to a topic that the expresser is heavily invested in, the expresser may more readily communicate nonverbally if they are worried about not receiving a response. This way, the partner may ignore the signal (even when it is accurately read), and the expresser who receives no support may more easily explain away the lack of response. Both partners likely implicitly know all this, and the perceptions of how responsive the partner will be might interact with the nature and significance of the emotion to impact how the emotion is expressed.

Conclusion

Emotional expressions are building blocks for establishing, building, and maintaining healthy close relationships. However, despite the important roles that emotional expressions play in close relationships, relationship researchers typically have not considered how the channels through which we express emotion, verbal and nonverbal, function independently and in interaction with one another to build and to strengthen high-functioning close relationships. Much of the existing research on emotional expressions in close relationships has been done from a holistic framework where the functions of emotional expressions are discussed and

examined without a distinction made between the different roles that nonverbal and verbal channels of expression may serve (e.g., Aune et al., 1994; Buck, 1989; Clark & Finkel, 2005). There are exceptions to this, as some research has been focused upon the role of nonverbal emotional expressions in disintegrating relationships (e.g., Gottman et al., 1998; Noller, 1980), primarily from a clinical perspective with an aim of diagnosing and intervening in low-functioning, distressed couples. Interestingly, almost no social psychological research has focused specifically on verbal emotional expression in relationships outside of literature on self-disclosure more generally (e.g., Collins & Miller, 1994) and work on the phrase “I love you” (Ackerman et al., 2011). These are important gaps to fill as we try to better understand the nature of emotional expression within close relationships.

In this chapter, I have reviewed literature on expressing emotion in close relationships to highlight that scholars have rarely investigated whether or not expressing emotion in different ways, particularly verbally and nonverbally, has different antecedents and consequences for the relationship. I have also reviewed some literature on emotion expression through the channels more broadly to illuminate how the general functions of verbal and nonverbal emotional expressions might translate to a close relationship context. Through this process, I have outlined some distinct roles for verbal and nonverbal emotional expressions. I suggest that verbal expressions, because they are likely to be perceived as intentional, undeniable displays of emotion, convey the expresser's willingness to be vulnerable. They also might inform partners that the expresser wants them to know how they are feeling and wants them to react in a responsive manner. On the other hand, nonverbal expressions, because they are likely to be perceived as less consciously controlled and more spontaneously produced, likely convey that an emotion is sincerely and genuinely felt as well as the intensity of the emotion. Moreover,

nonverbal emotional expressions are especially likely to elicit unconscious mimicry, which is then likely to promote liking.

We emphasize the need to pursue investigation of these different functions and their consequences, particularly within the context of close relationships, and hope that our fellow relationship researchers will begin to incorporate this important distinction into their work.

Chapter 2- Expresser and perceiver interpretations of verbal and nonverbal emotional expressions in a laboratory setting

Introduction

Whereas I, as a relationship researcher, spend a great deal of time thinking about the functions of verbal and nonverbal emotional expressions in relationships, it is not clear to what extent the layperson thinks about these modes of expression, about how to interpret their relationship partners' verbal and nonverbal expressions, or about the roles those expressions might serve for building that relationship.

In this chapter, my overarching research question is whether romantic partners, when reflecting on actual emotional discussions they have had, perceive their own and their partner's verbal and nonverbal emotional expressions to serve the functions I theorized about in Chapter 1. More concretely, a few specific guiding research questions for this chapter include: Do individuals perceive their own and their partner's verbal emotional expressions to signal intentionality? Do they perceive their own and their partner's nonverbal emotional expressions to signal that an emotion is genuinely felt?

There are likely many interesting implications for the relationship of perceiving these functions of verbal and nonverbal expression. One example could be that expressers with awareness that nonverbal emotional expressions signal that an emotion is genuinely experienced might consciously express more emotion nonverbally to seem more genuine. As intriguing as these implications are, and I will begin to explore some of them in later chapters of this dissertation, the scope of the current chapter is focused on the first step of whether or not expressers and perceivers are aware of these functions.

As interactive humans with a need to belong and to have close relationships with others (Baumeister & Leary, 1995), it is unsurprising that prior research has documented how emotions

serve important social functions (Fischer & Manstead, 2008; Fridlund, 1991; Keltner & Haidt, 1999). But it's not clear from this work to what extent we are *aware* of these relationship-building functions when we express or perceive emotion in relationships. Presumably, the reason emotional expressions serve these functions is because expressers and perceivers interpret, whether in the moment or more holistically, that verbal and nonverbal expressions serve these functions for building relationships. Otherwise, we would not interpret expressions as meaningful for our relationships in this way and they would fail to serve these functions. For example, at some level we likely interpret that verbal expressions signal that an emotion is intentionally communicated, otherwise we would not rely on verbal emotional expressions as accurate and clear signals of the emotional experience (Kraus, 2017). On the other hand, perhaps these functions operate outside of conscious awareness without our association of the expression with the function. In that case, it may be that these channels of emotional expression serve a specific function precisely because the partner's response to the expression reinforces the existence of the expression irrespective of the expresser's conscious deployment of this expression for functional means. For example, displaying that one is embarrassed, likely through nonverbal displays of embarrassment and laughter, engenders liking in a perceiver and allows that perceiver to be more comfortable in the interaction (Edelmann, 1982). This raises the question of whether or not expressers are aware of the impact of their specific nonverbal emotional expressions. It is not clear if expressers have enough awareness that nonverbal displays of embarrassment prompt these reactions from a partner to employ them strategically in an interaction.

Thinking more deeply about these social functions, Fischer and Manstead (2008) make a distinction between the interpersonal goals that emotions may fulfill, the social functions of these

emotions that work towards those goals, and the effects of these emotions. This has the implication that we may have some awareness of the goals or the functions of our expressions and how those might differ from the actual outcomes of our expressions. For example, we may perceive that expressing sadness has the effect of inspiring sympathy from a relational partner and also that it achieves the goal of increasing intimacy as the expresser shares vulnerabilities and the perceiver is able to help ameliorate the sad situation (Reis & Shaver, 1988). However, if the perceiver ignores the expresser's sadness beyond simply encouraging them to cheer up, this outcome of expressing sadness would be mismatched with the intended goal and would fail to fulfill it. Relatedly, Greene and colleagues (2006) highlight that a primary motivator for disclosing personal information to a close relationship partner is a desire for the relational benefits of disclosure, including building intimacy and trust as well as the potential for partner similarity.

Whereas it is clear that scholars have thought extensively about the social functions of emotion, as documented above, they typically do not consider the functions of verbal and nonverbal emotional expressions separately. When researchers do consider these channels independently, for example in Rychlowska and colleagues' (2017) consideration of the different functions that smiles may serve (here an example of considering the functions of just one expression within one channel of expression- nonverbal), they are again not primarily concerned with how the *expressing* individuals think about these signals and functions within the context of their interpersonal relationships. For example, Rychlowska and colleagues (2017) make a compelling case that there are three sets of distinct facial muscle configurations which produce three different kinds of smiles, and that each of these kinds of smiles serves a function of reward, affiliation, or dominance. Although they examine the extent to which *perceivers* (those

interpreting the emotional expression) can interpret the social functions of the different kinds of smiles, it's not clear how those functions are reflected on by the individuals expressing the emotions. This is an important aspect to examine because it sets the foundation for the discussion of whether or not emotional expressions can be strategically and consciously employed for these functions (Mills & Clark, 1986). Indeed, Rychlowska and colleagues argue that their profiles of different functions of socially deployed smiles can help to better understand how the smile can be “used for multiple social tasks, including love, sympathy, and war” (Rychlowska et al., 2017, p. 1268). However, in order for emotional expressions to be strategically deployed for a specific purpose, the expresser must be aware that the expression will likely serve this function. Otherwise, how does one know when to smile or to frown in a particular way in order to achieve a specific goal? Without a reflection that an expression of emotion may serve that function, it is hard to argue that emotional expressions are functionally engaged and consciously deployed. This is a primary question I am interested in exploring here—do expressers (and perceivers) have an awareness of the functions that emotional expressions might differentially serve across the expressive channels (e.g., verbal expressions signaling intentional communication) such that they choose to express emotion through that channel in order to serve that function and to prompt the appropriate response?

However, not all theorists agree that emotions serve functions that are directly consequential to the expresser and that thus might warrant being functionally employed. An alternative perspective holds that the main functions of emotions are inherently social and interpersonal as they serve primarily to signal to our companions an internal state that they may want to replicate or avoid (Darwin, 1872). By this argument, it is not clear whether or not the expresser needs to be aware of their own expression or of the functions it may serve because this

signaling function has been selected for evolutionary purposes and may operate outside of conscious awareness. By this account, it may be especially likely that we are unaware of these functions given that the primary role of them is not for intrapersonal reflection or understanding or even to meet personal needs.

However, it remains to be seen to what extent the kinds of emotions that could be functionally employed within close relationships (should there be evidence that expressers are aware of these functions in the context of expressing) are all beneficial. Perhaps there are emotional expressions that an expresser chooses to use to provoke a reaction in their partner that is not long-term beneficial for either individual or for their relationship. For example, in the midst of a conflict discussion one partner may express dislike for a characteristic of the other partner that is outside of their control (such as an aspect of their appearance or a fact about their childhood). This may be an intentional choice on the part of the expresser to articulate something they feel, but it may not be beneficial to the partner or to the relationship in either the short- or long-term because the partner cannot meaningfully change this attribute.

Given all of these different speculations, it is an important first step to better understand how expressers themselves reflect on and understand the functions of their own emotions. Further, it is also helpful to more deeply explore how perceivers interpret the functions of these emotions within the context of close, interpersonal relationships.

In this chapter, I follow-up directly on my theoretical framework and in so doing set the groundwork for later chapters of this dissertation by evaluating how the functions of verbal and nonverbal expressions are evaluated by both expressers (the encoder, or the one sharing their emotion) and perceivers (the decoder, or the one receiving the emotional information).

Beyond considering awareness of the functions of emotion, it is still not clear to what extent both expressers and perceivers are aware of their own (in the case of expressers) and their partner's expression itself (in the case of perceivers). Considering expressers, an overwhelming reliance in the psychological literature on self-reported emotional expression signals that scholars do presume that individuals have some awareness of their own emotional expressivity (e.g., Halberstadt et al., 2011; Rauer & Volling, 2005; Zhang et al., 2018). Indeed, the validation of some self-report measures of emotional expressivity through close relationship partner reports and/or coded observations of the individual expressing (e.g., Kring et al., 1994) indicates that we must have some level of awareness of our own level of emotional expressivity. In the case of perceivers, scholars examining empathic accuracy (e.g., Zaki et al., 2009) provide evidence for a perceiver's ability to see and accurately interpret an expresser's emotional expressions so as to be responsive to that partner (Reis & Clark, 2013). However, evidence continues to mount that perceivers are both accurately perceiving the expresser's emotional state and that they are projecting their own emotional state onto the expresser (Clark et al., 2017; Overall et al., 2020). Therefore, it is warranted to further examine the extent to which expressers and perceivers are aware of and able to report accurately on their own and their partner's expressions, particularly nonverbal expressions given their more ambiguous nature. This vital initial question is one that I examine within this chapter using the different sources of accuracy within this dataset, each of which reported on the expression of the expresser (the expresser, the perceiver, and the third-party coder).

Although I am examining a novel facet of the perception of verbal and nonverbal emotional expressions by looking at perceptions of functions in relationships, numerous scholars have examined other facets of emotion perception. This includes work examining perceptions of

one's own ability to express emotion (as well as the actual enacted behaviors of expressing). Most of the work asking participants to report on their own emotional expression measures the extent to which an individual generally expresses emotions to others *nonverbally* (e.g., Friedman et al., 1980; Gross & John, 1995) or both verbally and nonverbally (Kring et al., 1994). Another focus is on whether or not pieces of the emotional expression communicate that the expresser is being deceptive or truthful, with a primary finding being that nonverbal expressions are relied upon (by a perceiver) most heavily as signals of truth when verbal and nonverbal displays are discordant (Ekman & Friesen, 1969; Noller, 1985; ten Brinke & Porter, 2012; Vrij, 2008). However, as stated in chapter one, it is as yet unclear to what extent expressers and perceivers rely on nonverbal signals to draw similar conclusions when the displays are concordant. It could be that we perceive nonverbal displays to be an indication of the truly felt emotion and as signals of how genuine and sincere a person is, matching our perception of the role of nonverbal emotional expressions in discordant displays. On the other hand, the importance of assessing how genuine and truthful an emotional expression may be could be diminished in the face of a concordant display whereby one can assume that the expresser is well-intentioned and not trying to hide their meaning. The following study will help to address that by examining perceptions of sincerity and genuineness within concordant displays in close, interdependent relationships.

Despite an emphasis within the literature on studying perceived functions of expressions in stranger or acquaintance contexts, there is some work that moves into a close relationship context. Vincent and colleagues (1979) asked couples to have problem-solving discussions while pretending to be extremely well-adjusted couples or very poorly adjusted couples. In parallel to much of the work on deception in strangers, the authors found that verbal behavior differed significantly when couples were pretending compared to when they were not, but that

nonverbal behavior remained constant across the conditions, which suggests that nonverbal behavior can be read as a clue to the “true” underlying emotional state. It also implies that verbal emotional expressions are conscious and controllable, which means that they can shift when asked to pretend during an in-laboratory task while the nonverbal expression remains constant. However, as with other studies within the deception literature, the authors do not systematically evaluate whether the expressers and perceivers themselves share this understanding of the functions of their expressions. It may be that these couples are consciously adjusting their verbal expression to fit the role, or it may be happening without their awareness.

There is also evidence that verbal and nonverbal expressions during relationship conflict discussions might link to the health of the relationship in interesting ways. In one study, Faure and colleagues (2018) examined how implicit partner evaluations might differentially predict verbal and nonverbal behaviors that are critical to the health and functioning of the relationship. After having participants complete measures of their implicit evaluations of their romantic partner, the couple discussed a topic of conflict in their relationship while being videotaped. Following this in-lab portion of the study, participants also completed a daily diary for 8 days asking them to report on the happenings of their day. Faure and his colleagues (2018) found that having more positive implicit partner evaluations predicted a higher frequency of constructive nonverbal behavior towards one’s partner. This study is the most recent in a long series of studies, highlighted in Chapter 1, examining how the ways partners react to one another through verbal and nonverbal emotional expressions during discussions of conflict might relate to their broader relationship functioning or to features of their relationships (Gottman, 1980; Gottman et al., 1998; Gottman et al., 1977). In each of these studies, the researchers describe the link between verbal or nonverbal behaviors (primarily nonverbal behaviors) and relationship success,

but they do not ask participants if they would also endorse these perceived functions to see if any awareness of these differential roles of verbal and nonverbal expressions could be driving the effects.

One way to interpret Faure and colleagues' (2018) finding that positive implicit partner evaluations predicts more constructive nonverbal behaviors is to rely on two closely linked assumptions. The first is that implicit evaluations are relatively stable and are unconsciously formed and controlled. Contrary to this assertion, there is compelling evidence that implicit evaluations can vary across motivational contexts to fall in line with one's goals (Melnikoff & Bailey, 2018) and that implicit evaluations are susceptible to updates from new diagnostic information (Cone & Ferguson, 2015). The second assumption is that nonverbal emotional expressions, like implicit evaluations, are also unconsciously controlled and that they arise spontaneously, thus likely arising from stable internal traits and mechanisms. However, it is unclear to what extent most nonverbal emotional expressions operate outside of conscious awareness and are reflective of stable, internal dispositions rather than strategic and context-dependent expressions of emotion. Faure and colleagues (2018) find that these implicit evaluations match up with nonverbal behaviors even when the implicit evaluations are not in line with the individual's explicit evaluations, suggesting that nonverbal expressions are tapping into something that may be beyond the awareness of the expresser themselves. However, what is important here is not the question of whether or not nonverbal emotional expressions are *truly* spontaneous and unconsciously controlled, but rather whether or not expressers and perceivers *interpret* them to be. If one reasons that their own or their partner's nonverbal expressions are outside of the expresser's deliberate control, one might respond to that expression in a different way than how one would respond if the expressions were perceived to be intentional and

controlled. Returning to the findings from Faure and colleagues (2018), perhaps a perceiver will assume (correctly, according to their results) that the expresser's nonverbal emotional expressions signal something genuine about their implicit feelings towards the partner, especially when these might contradict the explicit statements the expresser makes about the partner. Clearly, the interpretations that expressers and perceivers make about the roles these different channels of expression may serve have important implications for the individuals and for the relationship.

As alluded to above, the two primary questions that I seek to address in this chapter are 1) To what extent are an expresser's perceptions of their own verbal and nonverbal emotional expressions congruent with their partner's perceptions? To what extent are they congruent with a neutral, outside observer's perceptions? And 2) Do expressers and perceivers associate their own and their partner's verbal and nonverbal emotional expressions with functions, such as signaling intentionality, that an emotion is genuinely felt, and communicating vulnerability?

Given the daily interdependence of these romantic couples (Berscheid, 1983; Rusbult et al., 1998) I predicted that expresser and perceiver reports of emotional expression will be closely aligned, but that these sets of reports will likely differ from those of the outside observer. More concretely, I predicted that expresser and perceiver reports of verbal and nonverbal emotional expressivity will be highly correlated, and that they will each show similar patterns in predicting (or not predicting, as may be the case) the outside observers' ratings. This might occur because the expresser and the perceiver share knowledge of each other and of the history of their relationship that provides shared context for interpreting emotional expressions within the relationship that is not available to the outside coder.

Based on the prior literature highlighted above, I predicted that participants have some awareness of the functions of their expression and are assessing how genuine, vulnerable, sincere, and intentional an expression of emotion is in accordance with how much that emotion is verbally or nonverbally expressed.

More specifically, I predicted that higher levels of verbal expression would be perceived by participants to be more intentional and vulnerable compared to lower levels of verbal expression. Similarly, I predicted that higher levels of nonverbal expression would be perceived to be more genuine and sincere compared to lower levels of nonverbal expression. I also anticipated that these patterns may shift around such that I might see this only in perceptions of the partner, only in reflections on one's own behavior, or in both.

As will be articulated in more detail below in the results section of this chapter, there are a number of different ways that we can examine verbal and nonverbal emotional expression within a romantic dyad, several of which are captured within the dataset used for these analyses. To preview these details, I will be using reports from individuals within romantic relationships of how much verbal and nonverbal emotion one partner expressed (both in terms of the amount of emotion and how positive or negative that emotion was) to the other partner during an emotional discussion.

The reason for choosing these specific ways of examining emotional expression is that self and partner reports of verbal and nonverbal expression allow me to most cleanly examine my primary questions of interest. As stated above, the central question for this chapter is whether *the expressers and the perceivers* hold theories about the functions of expressions in the course of actually discussing emotional topics with a close relationship partner. If relationship partners conceptualize, for example, sincerity to be communicated by nonverbal expression, this

means it could be employed functionally. In other words, this could lead to people choosing to express emotion nonverbally to suit this purpose. Therefore, what is most central to examining this question is both how the expressers reflect on their own verbal and nonverbal emotional expression and how the expressers rate the functions (vulnerability, intentionality, and sincerity) they may be associating with those expressions. Similarly, equally central is the link between how perceivers interpret their partners' emotional expressions and how perceivers rate the functions associated with those expressions.

Method

Broadly, these data were collected with the aim to assess verbal and nonverbal emotional expressions between romantic relationship partners occurring during naturalistic conversations mimicking those that romantic partners might have around the dinner table. The overall purpose of collecting these data was to evaluate how these verbal and nonverbal expressions, as well as each partner's perceptions of these expressions, might differentially relate to important characteristics of the individual as well as to the health of their relationship. There are clearly a number of different questions and predictions that might arise from this broader study. Both this chapter and the following will present the results of two specific sets of questions using this data set.

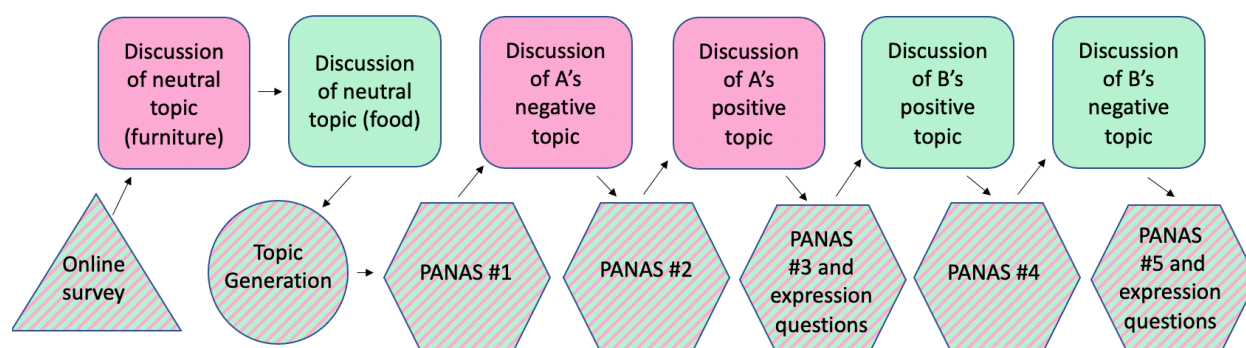
These chapters are a first step to ultimately allow us, in time and with further research, to better understand what separately contributes to verbal and nonverbal emotional expression and also how these different forms of expression might impact relational health. To achieve these aims, I designed a two-part, online and in-laboratory dyadic study.

Participants in this study first completed an online survey measuring features of themselves, such as self-esteem and general emotional expression, as well as features of their

relationship with their romantic partner, such as relationship satisfaction and optimism for the future of the relationship. Following the completion of this survey, participants came into the laboratory together as a couple and engaged in a series of discussions around positive and negative emotional topics. In between these discussions, all participants completed measures of their emotional experience, including the Positive and Negative Affective Schedule (PANAS; Watson et al., 1988) as well as measures of their own and their partner's emotional expressivity, see Figure 2 for a broad overview of the study design. Measuring emotional experience and perceptions of expression at multiple time points allows us to carefully examine fluctuations in emotion throughout a series of conversations as these fluctuations naturally occur, as well as to investigate perceptions and some consequences of these fluctuations. Details of the study measures and procedures are described below.

Figure 2

Overview of Study Design with Participants A and B as the Members of One Romantic Dyad



I. Recruitment

Participants (romantic couples who had been together for at least 6 months) were recruited for this study using paper fliers distributed in the New Haven area as well as online postings (Craigslist, Facebook groups, Yale student group newsletters, etc.).

II. Participants

83 romantic dyads ($N = 166$ individuals, 86 women) were recruited from the greater New Haven community to participate in a study about social interactions. The sample was largely heterosexual (83%). The majority of the sample (76%) was unmarried, with an average romantic relationship length among those who were unmarried of 2.61 years. On average, participants who were married had been in a romantic relationship with their partner for 8.3 years and had been married for 5.10 years. Many (47%) of participants were between 18 and 24 years old, whereas half (50%) of participants reported being between 25 and 50 years old, and 3% of participants were older than 51. Participants were given the option to select any ethnic and racial designations that applied to them from a list, allowing them to select more than one option if desired. Most (54%) of participants were Caucasian, 14% of participants were Asian, 8% of participants were Hispanic, 6% of participants were African American, 5% of participants reported “other” as their ethnicity, and 10% of participants reported two or more ethnicities. One participant did not report ethnicity.

III. Pre-Laboratory Survey

Experimenters⁵ sent a link to the online, pre-laboratory survey individually to each participant about forty-eight hours prior to their scheduled time to come into the laboratory.

⁵ Because of the scale and complexity of this study, a team of experimenters (undergraduate research assistants) assisted me in running participants through this study, see Appendix A for the script and procedures of the study that all experimenters followed. Despite the incredible

After giving their online assent, participants completed a Qualtrics survey consisting of a series of questionnaires examining personality attributes, relationship characteristics, and reports of their own and of their partner's general emotional expressivity. See Table 3 for a list of the pre-laboratory measures administered. Participants were instructed to complete these questionnaires alone (without their partner), and they were told they should not discuss or look at their partner's responses. The survey took approximately thirty minutes to an hour to complete.

I chose to have participants complete the pre-survey ahead of coming into the laboratory for both theoretical and pragmatic reasons. Because many of the questionnaires asked participants to report on relationship functioning and perceptions of the relationship (for example, relationship satisfaction and optimism for the future of the relationship), I did not want participants to complete this in tandem with having emotional discussions and reflecting on their own and their partner's emotional expressions as well as the implications of those expressions. By separating out these questionnaires in time, I hoped to avoid participants shaping their in-laboratory responses and behaviors to their responses on these questionnaires. Similarly, because the pre-laboratory survey contains several measures of general emotional experience and expression (of both the self and the partner), I wanted to separate out these responses in time from participants' assessments of their own and their partner's emotional experiences and expressions in the lab to avoid participants interpreting their real-time emotional functioning through the lens of their general emotional functioning.

support of this team, I was still the primary experimenter due to scheduling complications for the two-hour study windows. In this description of the methods, I refer to the "experimenter" when referencing the person running the couple through the study (which could be anyone on the team), and I refer to "I" (myself) when describing design processes undertaken by the principal investigators.

On the pragmatic side, given the length of this questionnaire as well as the length of the in-laboratory portion of the study, it was more realistic and sensible to carve out a portion of the study that participants could easily do from the comfort of their own homes rather than having them complete the entire study in the laboratory.

Table 3***Pre-Laboratory Measures^a***

Questionnaire	Description (if applicable)
Emotional Expressivity Scale (EES, Kring et al., 1994; modified)	
Affective Communication Test (ACT, Friedman et al., 1980)	
Berkeley Expressivity Questionnaire (BEQ, Gross & John, 1995)	
Emotional experience and expression ^b	Self and partner reports of experience and expression of distinct emotions: sadness, happiness, anger/irritability, disgust, guilt, hurt, and anxiety
Emotional Expressivity Beliefs Questionnaire (Hay & Clark, unpublished measure)	Beliefs about whether expressing emotion is wise or foolish
Positive and Negative Affective Schedule (PANAS)-General (Watson et al., 1988; modified)	Includes all original items (except “scared” because of overlap with “afraid”) along with additional items “proud”, “happy”, “hurt”, “embarrassment”, “pride for another”, “gratitude”, “guilt”, “pride for yourself”, “joy for another person’s good fortunes”, “sadness for another’s

	misfortune”, “happiness for another person’s good fortune.” ^c
Self-esteem (Rosenberg, 1965)	
Attachment style (ECR-Short Form, Wei et al., 2007)	
Life Orientation Scale (Optimism; Scheier et al., 1994)	
Optimism for relationships (Scheier et al., 1994, modified by Clark & Bink, unpublished measure)	Optimism about the future of a current romantic relationship
Self-Disclosure Index (Miller et al., 1983)	
Opener Scale (Miller et al., 1983)	The ability to elicit self-disclosure from others
Trust in the partner (Rempel et al., 1985; modified)	Modified to assess trust in the partner specifically
Relationship satisfaction (Hendrick, 1988)	
Relationship commitment (elaborated version of Rusbult et al., 1998)	Previously used in Rusbult et al., 2009
Communal strength (Mills, Clark, Ford, & Johnson, 2004); Perception of partner’s communal strength (adapted from Mills et al., 2004)	Both communal strength towards one’s partner and perception of one’s partner’s communal strength towards oneself

Demographic items	Age, race and ethnicity, education level, gender, and sexual orientation
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^aFull versions of all questionnaires administered can be found in Appendix B

^bData obtained from administering this questionnaire in the past have been reported by, among others, Clark and colleagues (2017) and Von Culin and colleagues (2017). These questions were originally used in a longitudinal study of married couples led by Margaret Clark.

^c These items were added to assess specific emotional constructs I was interested in, particularly the relational emotions.

IV. In-Laboratory Session

After completing the online survey, participants come into the laboratory together with their partner (again see Figure 2 for the overview of the study design). Participants were seated across a table from one another with three cameras set up on tripods around the room. The cameras were positioned such that one camera is trained on each participants' face and upper body and the third camera captured both partners in profile.

One member of the pair started the first discussion as the expresser while their partner was the perceiver, so we needed to randomly assign a role to each partner, A or B.

Experimenters used gender as the determining factor in this assignment (such that either the man or the woman was randomly selected to be A). Once one participant is selected to be in the A role, the other was automatically assigned to the B role. For same-sex couples, this designation was selected based on the alphabetical ordering of the participants' first names rather than gender. Next, the experimenter selected the order of discussion for the couple as well as the ordering of the valence of discussions (positive and negative), which were counterbalanced across dyads to mitigate systematic study burnout effects for discussions and questionnaires that come at the end of the almost two-hour laboratory session.

A. Practice Discussions- neutral conversations

After completing the in-person informed consent process, participants were instructed to begin their first “practice” discussion by discussing the presumably neutral topic of the furniture in their house(s) or apartment(s). The participant designated as the first expresser began the first practice discussion. The participants were instructed to discuss this topic normally as if they were having a conversation and to continue discussing the topic for as long as the conversation naturally flowed. The experimenter told the participants that she would stop them after five minutes, but that if they were done before then they should ring a bell sitting on the table. At this point, the experimenter started the cameras recording and left the room.

At the conclusion of this first “practice” discussion, the experimenter instructed the participant who did *not* begin the first discussion to start the next “practice” discussion about the food items currently in their fridge(s) and/or pantry(ies), which was presumed to be another neutral topic for discussion. Participants were given the same instructions to discuss this normally as if the two of them were having a conversation and to continue discussing for as long as the conversation naturally flowed. The experimenter again told the participants that she would stop them after five minutes, but that they should ring the bell on the table if they are done before then.

These “practice” conversations served several purposes. First, they allowed the participants to acclimate to having a conversation with their partner while being filmed. Additionally, these discussions of neutral topics were included to give us a baseline measure of each participant’s verbal and nonverbal emotional expression to compare with their emotional expression during the discussions of emotional topics⁶. This allowed us, if desired, to determine

⁶ Participants did not view the videos of these discussions or make these comparisons. The comparison between these baseline tapes and the emotional discussion tapes have only been viewed and assessed by members of the study team.

if their emotional expression is due to the emotional content of the conversations or if it is due to the participant's consistent emotional expressivity across different contexts. These videos have, so far, not been used in any comparisons.

B. Topic Generation Activity

Once participants completed this measure, they were brought back together and instructed to think of some life events that were personally relevant to them and that they could discuss with their partner. The experimenter then gave them some additional parameters for generating these topics as well as a reference sheet that highlighted the main guidelines for their topic choice. I asked participants to generate their own topics for discussion, rather than choosing from a pre-determined list or being assigned topics, because it allowed the discussions to be more directly and personally relevant, thus potentially augmenting emotional expression over the course of those discussions.

The experimenter explained that they should choose two positive topics and two negative topics that were personally relevant to them but that did not include their partner, thereby excluding conflicts they have had with their partner or things they have done together. The experimenter explained that these topics could include things like an event in their place of work or study, a relationship with a close friend or family member, a hobby in which they liked to engage without their partner, or an event in their family of origin. They also were told that these topics should be, if possible, something that happened or that was relevant in the past few months.

When generating their topics, the experimenter asked participants to think of negative topics that ranked between a four and a seven on a scale from one to ten in terms of topic negativity, with one being very minimally negative to not at all negative and ten being the most

negative topic they could imagine. Similarly, they were told to generate positive topics that ranked between a four and a seven on a scale from one to ten in terms of topic positivity, with one being very minimally to not at all positive and ten being the most positive topic they could imagine. These two unipolar scales mirrored scales used elsewhere in the study for participants to report on their positive and negative emotional experience and expression, and they were designed to be intentionally separate and unipolar to encourage participants to think about the possibility of mixed emotions occurring. The experimenter instructed the participants to indicate this number rating next to each topic when they wrote down the topic.

The experimenter additionally instructed participants to think of everyday topics they were comfortable discussing and not to generate topics such as clinical depression or intended harm to self or other.

Once participants asked any questions they might have had, the experimenter sat in a corner of the room and surreptitiously timed how long each participant took to generate and record their topics while remaining available for any additional questions that came up.

The experimenter then left the room and selected the topics for discussion. Again, each participant generated a total of two positive and two negative topics, and the experimenter selected one positive and one negative discussion topic for each participant. The criteria that the experimenter followed in selecting the topic for each discussion was to choose the highest rated topic within each valence (positive and negative), assuming these topics met our basic parameters (rated between a 4 and a 7 and did not, based on the experimenter's estimation, violate our other previously outlined criteria). Beyond ensuring that the topics met these basic constraints, experimenters did not consider any other aspect of the topic (e.g., how emotional

they perceived it to be) when choosing the topic and maintained a systematic process of choosing the highest rated topic.

The constraints for these topics were motivated by a number of different considerations. First, I wanted to ensure that I would get a sufficient amount of variability in emotional expressivity to be able to detect differences across the conversations and across participants, so I chose a range of values (four to seven) encircling, but skewed slightly higher than, the midpoint. Essentially, I wanted to make sure that there was some range in how much emotion was expressed to allow me to pull apart differences in verbal and nonverbal expression across couples that might link differentially to the outcomes. However, I also did not want participants to discuss extremely negative topics because of the potentially negative effects this might have on them in the laboratory, leading to the restriction of the top portion of the range.

I asked participants to choose topics that were personally relevant to them to encourage discussions that were sufficiently emotional to, theoretically, elicit variability in emotional expression. I also asked participants to choose topics that did not include their partner so that it might be easier to isolate and analyze the expression of each participant individually. If they discussed topics in which both partners felt involved, I was concerned that one partner might take control of the conversation and prevent the other partner from participating enough for meaningful coding of their emotional expression. I also wanted to avoid conflict discussions, as conflict has been well studied within this field (e.g. Gottman et al., 1977; Noller, 1980), and it is outside of the scope of our research questions about the emotional expressions that build and maintain healthy relationships.

C. Emotional Discussions

After completing the topic generation process, the same participant who began the first practice discussion (about furniture) began the first emotional topic discussion of either their positive or their negative topic (depending on the counterbalanced order). As highlighted above, the overall order of the two positive and two negative discussions (one positive and one negative for each participant) was counterbalanced across dyads, but the first participant always discussed both of that participant's topics before the other participant began discussing either of that participant's topics.

For example, the counterbalanced order of discussions may be P_B, N_B (Participant B's Positive topic followed by Participant B's Negative topic); N_A, P_A (Participant A's Negative topic followed by Participant A's Positive topic). In this case, participant B would start the first discussion by bringing up his positive topic. Then participant B would discuss his negative topic. Following this, participant A would discuss her negative topic first, then her positive topic. Based on this example, participant B would be the first expresser while participant A would be the first perceiver and then the roles would switch for the second set of discussions.

As in the "practice" discussions, the experimenter asked the participants to discuss this topic as if the two of them were having a conversation and to continue discussing the topic for as long as the conversation naturally flowed. The experimenter also let them know that she would interrupt them after five minutes but that they could ring the bell if they finished before then.

D. Administration of In-Laboratory Measures

At the conclusion of the practice discussion set (two discussions), as well as at the conclusion of *each* emotional discussion, participants were separated into different rooms to

complete questionnaires about their own and their partner's emotional experience and expression. The partner who is brought to the alternative room rotates for each set of surveys.

At the start of each survey set (of which there are five in total), participants completed a questionnaire about their current emotional experience (the PANAS). Participants were told they would be given this survey several times throughout the study and, to emphasize that their responses need not remain the same (and potentially should not), the experimenter noted that emotions change all the time. Participants were instructed to fill out the measure based on how they were feeling each time they received it. As indicated above, participants received a total of five PANAS measures during the in-laboratory portion of the study to chronicle variation in their emotional experiences. See Table 4 for a list of the in-laboratory measures administered throughout these sessions.

Table 4***In-Laboratory Session Measures^a***

Questionnaire	Description (if applicable)
Positive and Negative Affective Schedule (PANAS, Watson et al., 1988; modified)	Included the same items as the pre-laboratory questionnaire. Participants marked responses with a physical vertical line along a 1-5 scale on paper, with no interim numbers provided. Administered a total of five times to participants. ^b
General Primary Expresser (GPE) Questionnaire ^c	Administered only to the expressers- perceptions of their own experience and expression of distinct emotions: happiness, sadness, anger, anxiety, “other” emotions. Also asked participants to list all emotions and to note typicality of expressiveness. This questionnaire collapsed across the positive and negative discussions.
Positive Discussion Primary Expresser (PE) Questionnaire	Administered only to the expressers, and only concerning the positive topic discussion- perceptions of how much emotion they expressed verbally and nonverbally, as well as how positive and negative this expression was (on separate, unipolar scales). Perceptions of expression-experience match, sincerity, intentionality, vulnerability, and comfort, among other items.

Negative Discussion Primary Expresser (PE) Questionnaire	Administered only to the expressers, and only concerning the negative topic discussion- identical to the Positive PE questionnaire with a different target discussion.
General Primary Perceiver (GPP) Questionnaire ^c	Administered only to the perceivers- identical to the GPE questionnaire with a different target. In this questionnaire, participants reported their perceptions of their partner's (the expresser's) experience and expression of emotions. This questionnaire collapses across the positive and negative discussions.
Positive Discussion Primary Perceiver (PP) Questionnaire	Administered only to the perceivers- identical to the PE questionnaire for positive discussions with a different target- participants reported their perceptions of their partner's (the expresser's) expressions.
Negative Discussion Primary Perceiver (PP) Questionnaire	Administered only to the perceivers- identical to the PE questionnaire for negative discussions with a different target- participants reported their perceptions of their partner's (the expresser's) expressions in negative discussions.
Relationship Demographics Questionnaire	Length of marriage (if applicable), length of romantic involvement, and length of acquaintance.

^aFull versions of all questionnaires administered can be found in Appendix C

^bThis response method was designed to reduce bias from previous responses. Because the questionnaire was administered five times, I hoped that participants would be less able to recall the placement of a mark on a line from their last response than they might be able to recall a concrete number on a scale.

°Data obtained from administering this questionnaire in the past have been reported by, among others, Clark and colleagues (2017) and Von Culin and colleagues (2017). These questions were originally used in a longitudinal study of married couples led by Margaret Clark.

At the conclusion of each set of emotional discussions, where one set included both the positive and negative discussion topics for one partner, participants completed an additional packet of questionnaires in addition to their recording of emotional experience on the PANAS. For these additional questionnaires, each participant completed a different set of questions depending on the participant's role during the prior two discussions. First, the expresser reported on their own emotional expression across both of the two previous discussions in the General Primary Expresser Questionnaire and the perceiver reported on their partner's emotional expression in the General Primary Perceiver questionnaire.

Next, participants were given one questionnaire for each of the two previous discussions (two questionnaires total), with the discussion to reference while completing the survey highlighted at the start of each survey. Again, each participant completed a different set of these questions depending on their role during these first two discussions. The expresser reported on their own emotional expression and their interpretations of that expression separately for the positive discussion (Positive Discussion Primary Expresser Questionnaire) and for the negative discussion (Negative Discussion Primary Expresser Questionnaire). In parallel, the perceiver reported on their partner's emotional expression and their interpretations of that expression separately for the positive discussion (Positive Discussion Primary Perceiver Questionnaire) and for the negative discussion (Negative Discussion Primary Perceiver Questionnaire). To make it clear how participants should mentally separate their evaluations of each discussion, the topic that was discussed in the discussion they should reflect on was written at the top of the relevant questionnaire and the two questionnaires were physically separated and explained when given to

the participant. I chose to group together all of these surveys into one time period of questionnaire responses at the conclusion of both discussions to try to reduce survey fatigue at each of the five questionnaire stopping points. Although this is less than ideal from a design point because participants had to recall across two conversations for separate questionnaires, it did help the flow and speed of the study.

E. Administration of Relationship Demographics Questionnaire and Debriefing

After participants had completed all emotional discussions and the relevant surveys, the experimenter brought them back together and gave them the Relationship Demographics Questionnaire described in Table 4. At this point, participants were thanked, compensated, and debriefed. Participants received a \$10 amazon gift card for completing the pre-lab survey and an additional \$10 in cash for completing the in-lab portion. The experimenter also asked participants if they would be willing to participate in a follow-up study at some point in the future.

F. Verbal and Nonverbal Coding

While data collection was underway, my collaborators and I began the multi-year process of transcribing the verbal content of the videos, as well as of recruiting, training, and supervising teams of coders to separately evaluate the verbal and nonverbal emotional expression of each participant.

To start, we developed a coding scheme (see Appendix E for the nonverbal scheme) that included instructions for watching the tapes or reading the transcripts as well as a series of items for the coders to fill out regarding the participant's verbal or nonverbal emotional expression. These items included questions about the amount of emotion expressed, the valence of emotion expressed, the expression of specific emotions, and the sincerity of the expresser, among others.

Developing this scheme was an iterative process that involved consulting with other scholars, pilot coding, and assessments of early reliability to guide the development into the final coding scheme. The coding scheme is identical for both verbal and nonverbal coding with the exception of the channel evaluated. This was done with the aim of making direct comparisons across the two channels of expression. Verbal coders assessed the verbal channel through the written transcripts, whereas nonverbal coders assessed the nonverbal channel through watching the tapes with no sound on (and with only one participant in frame).

Teams of coders went through intensive training for either verbal or nonverbal coding that involved viewing and rating a set of training tapes for nonverbal coding or reading and rating a set of training transcripts for verbal coding. Training was complete when coders were in agreement with one another and with the trainer, and agreement was defined as being within one point of each other on the 7-point scales.

After completing training, coders worked in teams of two to complete the coding. Each team would separately watch the video or read the transcript, make their independent ratings, and then watch or read again and revise their ratings, again separately, if needed. Then coders would discuss each rating if they were more than one point apart from each other on an item and resolve conflicts until they were within one point. Final scores for each item were then calculated by averaging across the two sets of ratings made by each coder. For the rare cases (1.5% of the time for nonverbal coding, did not occur for verbal coding) when coders disagreed by more than one point and could not come to a resolution, a third coder was employed. In these cases, the two sets of ratings (one from each coder) that demonstrated the most overall consistency with one another were used for the final dataset while discarding the third.

Coders could complete both verbal and nonverbal coding, but coders were not permitted to complete coding for both channels for the same participant. For example, a coder who coded participant 5 for nonverbal could not also code this participant for verbal. Similarly, coders were not allowed to code the nonverbal expression of both partners in a dyad. However, they were required to code the verbal expression of both partners because of the inextricable nature of these conversations. If one coder coded only one participant's verbal expression in each discussion, the discussion would be fairly unintelligible. As an additional measure of verbal emotional expression, each transcript was also run through the Linguistic Inquiry Word Count software (LIWC 2015; Pennebaker et al., 2015). The specific items evaluated by LIWC in each analysis are identified in the relevant results sections.

Results

I. Examining Three Different Sources of Accuracy

Overview

When considering measures of emotional expressivity, there may be differences in reports of how much an expresser is expressing (and in how positive or negative that expression is) depending upon who was giving the report. For example, an expresser's self-report of their verbal expressivity could differ from their partner's report of their verbal expressivity, and each of these reports might differ from an objective coder's report of the expresser's verbal expressivity. Each of these sources of information about the expressive behavior of one individual represents a different form of "accuracy."

To examine how emotional expression is perceived by expressers as well as by perceivers in a romantic relationship, I started by examining the links between these different sources of accuracy.

To test this, I conducted a series of Pearson correlations on composite measures of self-reported expression, partner-reported expression, and coded expression. Following this, I also examined the extent to which expresser's self-reported emotional expression as well as the perceiver's report of the expresser's emotional expression predicted the coder's report of the expresser's emotional expression using the Actor-Partner Interdependence Model (Kenny et al., 2006). Because the analyses presented in this chapter use ratings from both partners of established dyads, and because each partner served as both the expresser and the perceiver at different points in the study, we account for each participant being nested within the dyad of their relationship using multilevel modeling techniques based on those established by Kenny and colleagues (2006).

As a further step to investigate any differences between these sources of accuracy, I was also interested in seeing how expression corresponds between partners within a dyad. Perhaps partners are matched to one another on the amount that they express emotion verbally and nonverbally, either because this matching developed over time or because it was a feature of their partner that initially drew their interest. Alternatively, perhaps partners differ from one another in the extent to which they express emotion. Either scenario is intriguing and would help to inform our understanding of these dyads and of how phenomenon such as emotional contagion emerges (Hatfield et al., 1993). To examine the correspondence between the emotional expression of each of the partners, I conducted a series of Pearson correlations to see the association between the objective coders' reports of each partner's verbal and nonverbal expression.

Measures

To capture the full picture of an expresser's rating of their own verbal or nonverbal emotional expression in a single measure (as well as the full picture of a perceiver's rating and a coder's rating), I created a series of composite measures that averaged across ratings of the amount of verbal (or nonverbal) expression and ratings of the positivity and, separately, negativity of the verbal (or nonverbal) expression. This allowed me to compare the expresser's overall rating of expression within one channel to the perceiver's rating within that same channel by collapsing across amount and valence of expression. Because the items for amount and valence of expression were measured on different scales, I first z-scored these measures to be able to standardize across the scales and combine them.

For both amount and valence of expression, the items were closely matched across the different sources of accuracy (self-reports, partner reports, and coders' reports) to enable me to make as close of comparisons across these three sources as possible. There were slight deviations in the items (such as different examples of nonverbal expressions), but the core questions remained the same.

Results

Positive Discussions

First, I will present these results for positive discussions, followed by a series of identical analyses for negative discussions.

Within the results for each discussion, I started by comparing the basic links between each source of reporting. This includes a correlation matrix comparing ratings of nonverbal expressiveness from the expresser, perceiver, and coder as well as the same matrix for verbal expressiveness. I also present a series of APIM analyses using each partner's report of the expresser's emotion to predict the coders' reports.

Following this, I compared how similar partners are in their expression to one another during the same conversation through a series of correlations linking the amount of verbal and nonverbal emotion expressed by each partner as well as the valence of the verbal and nonverbal emotion expressed by each partner.

A. Comparing links between the sources of expressive reporting

When comparing the links between the three different sources (expresser, perceiver, coder) for nonverbal emotional expression in the positive discussion, I found that all are weakly but significantly positively correlated with one another, see Table 5 for correlations.

Table 5

Correlations between sources reporting on nonverbal expressiveness- positive discussions

	Perceiver	Coder
Expresser	.29**	.18*
Coder	.17*	-

*Significant at $p < .05$

**Significant at $p < .001$

However, when comparing the links between the reporting sources for verbal emotional expressiveness in positive discussions, I found a slightly different pattern, see Table 6 for correlations.

Table 6***Correlations between sources reporting on verbal expressiveness- positive discussions***

	Perceiver	Coder
Expresser	.18*	-.02
Coder	-.05	-

*Significant at $p < .05$

To assess how well expresser's self-reported verbal and nonverbal emotional expressiveness predicted the coders' ratings of the expresser's verbal and nonverbal expressions, I conducted separate APIM analyses examining each channel independently.

Intriguingly, I found that there are no significant associations between the expresser's self-reported verbal expression and coders' ratings of the expresser's verbal expression ($b = -0.06, p = .43$). Similarly, there were no significant associations between the perceiver's reports of the expresser's verbal expression and coders' ratings of the expresser's verbal expression ($b = -0.09, p = .34$).

In parallel, I found that expresser's self-reported nonverbal expression did not predict coders' ratings of the expresser's nonverbal expression ($b = 0.13, p = .07$). Similarly, perceiver's reports of the expresser's nonverbal expression did not significantly (based on a criterion of $p < .05$) predict coders' ratings of the expresser's nonverbal expression ($b = 0.13, p = .05$).

B. Links between actor and partner coded measures for positive discussions

To evaluate the links between the emotional expression of the expresser and the perceiver within dyads, I conducted a series of correlations between the coders' ratings of the expressiveness of the expresser and the perceiver. To capture maximal specificity, I ran these correlations using the individual coded measures corresponding to general verbal (or nonverbal)

expression, positive verbal (or nonverbal) expression, and negative verbal (or nonverbal) expression rather than the composite measures used above.

Intriguingly, I found that there is not a significant correlation between the coded reports of how much one partner was expressing *nonverbally* and how much the other partner was expressing nonverbally, $r(161) = -.14, p = .09$. Similarly, there was no significant correlation between the coded reports of how much how much one partner was expressing *verbally* and how much the other partner was expressing verbally, $r(163) = .07, p = .40$.

Turning now to reports of negativity (within the positive discussions), I found that there was a significant correlation between how much negative expression one partner was expressing *nonverbally* and how much negative expression the other partner was expressing nonverbally, $r(161) = .25, p = .001$. In parallel, there was a significant correlation between coded reports of how much negative expression one partner was expressing *verbally* and how much negative expression the other partner was expressing verbally, $r(163) = .28, p < .001$.

Finally, when I considered reports of positive nonverbal expression (within the positive discussion), I found that there was a significant correlation between coded reports of how much positive nonverbal expression one partner was expressing and how much positive nonverbal expression the other partner was expressing, $r(161) = .21, p = .007$. Similarly, I find that there was a significant correlation between coded reports of how much positive verbal expression one partner was expressing and how much positive verbal expression the other partner was expressing, $r(163) = .16, p = .04$.

Negative Discussions

A. Comparing links between the sources of expressive reporting

Turning to the data for negative discussions, I found here that there was only a link between expresser's reports of their own nonverbal expression and perceiver's reports, see Table 7 for the correlations.

Table 7

Correlations between the three rating sources reporting on nonverbal expressiveness in the negative discussions

	Perceiver	Coder
Expresser	.17*	.12
Coder	.13	-

*Significant at $p < .05$

However, in the case of verbal emotional expressions, there were no significant associations between the three reporting sources, see Table 8 for correlations.

Table 8

Correlations between the three rating sources reporting on verbal expressiveness in the negative discussions

	Perceiver	Coder
Expresser	.13	-.05
Coder	-.01	-

To assess how well expresser's self-reported verbal and nonverbal emotional expressiveness predicted the coders' ratings of the expresser's verbal and nonverbal expressions, I conducted separate APIM analyses examining each channel independently.

Interestingly, I found that expresser's reports of their verbal emotional expression did not significantly predict coders' ratings of the expresser's verbal emotional expressiveness, $b = -0.03$, $p = .77$. Likewise, perceiver's reports of the expresser's verbal emotional expression did not significantly predict coders' ratings of the expresser's verbal emotional expressiveness, $b = 0.17$, $p = .08$.

In parallel, expresser's reports of their nonverbal emotional expressions did not significantly predict coders' ratings of the expresser's nonverbal expressions, $b = 0.08$, $p = .47$. Finally, perceiver's reports of their partner's nonverbal emotional expressions did not significantly predict coders' ratings of the expresser's nonverbal emotional expressions, $b = 0.08$, $p = .45$.

B. Links between actor and partner coded measures for negative discussions

In parallel to the process above, I conducted a series of correlations between the coders' ratings of the expressiveness of the expresser and the perceiver to evaluate the ties between the emotional expression of the expresser and of the perceiver within dyads. I again ran these correlations using the individual coded measures corresponding to general verbal (or nonverbal) expression, positive verbal (or nonverbal) expression, and negative verbal (or nonverbal) expression rather than the composite measures.

In contrast to the results for positive discussions, I found here that there was a significant negative correlation between the coders' reports of how much one partner is expressing nonverbally and how much the other partner is expressing nonverbally, $r(162) = -.24$, $p = .002$. As one partner was coded as expressing more nonverbal emotion, the other partner was coded as expressing less nonverbal emotion across the same discussion. However, there was no significant

correlation between coded reports of the general verbal expression of partners, $r(164) = -.12, p = .12$.

Turning to negative nonverbal expression (in negative discussions), there is a marginally significant positive correlation between the reports the coders gave on how much negative nonverbal emotion was expressed by each partner, $r(162) = .16, p = .05$. There is also no significant correlation between the coded reports of how much negative verbal expression was conveyed by each member of the dyad, $r(164) = -.11, p = .16$.

Finally, switching to positive nonverbal expression (in negative discussions), there was a significant positive correlation between the coders' reports of how much one partner expressed positive emotion nonverbally and how much their partner expressed positive emotion nonverbally, $r(162) = .17, p = .03$. There was also a positive and significant correlation between the coded reports of how much positive verbal expression one partner expressed and how much positive verbal expression was expressed by the other partner, $r(164) = .29, p < .001$.

II. Perceptions and Reflections

Overview

The second primary question that I sought to address in this chapter concerned the extent to which expressers and perceivers, as laypeople thinking about the functions of their emotional expressions in the course of them occurring, hold the same theories as I have outlined in Chapter 1 of this dissertation about the roles that verbal and nonverbal emotional expressions play in building relationships. Specifically, in this chapter, I examine three potential roles that verbal and nonverbal emotional expressions might differentially serve in close relationships: to signal vulnerability of the expresser, to signal that an emotion is sincerely felt by the expresser, and to signal that an emotion is being intentionally expressed.

I predicted that higher levels of verbal emotional expression (both the amount of expression and the extent to which it is positive or negative) would be associated with higher perceptions of vulnerability and intentionality compared to lower levels of verbal emotional expression. I also predicted that higher levels of nonverbal expression would be perceived as more sincere than lower levels of nonverbal expression. There are a variety of ways that these hypotheses can be tested within this dyadic dataset, and I will outline the specific ways I chose to evaluate these hypotheses below.

Measures

There are a variety of ways that I can operationalize “levels” of expression within this dataset to test my primary hypotheses about how perceptions of expression predict intentionality, sincerity, and vulnerability. Central to the test of my primary hypotheses is the evaluation of how the expresser’s and the perceiver’s reports of the expresser’s verbal and nonverbal emotion (both in terms of the amount of expression and of the valence of expression) predict the expresser’s and the perceiver’s reports of the expresser’s intentionality, vulnerability, and sincere genuineness.

Less central to my hypotheses is that the comparisons can be broken down by valence of discussion and that I can also assess the interactions of verbal and nonverbal expression within each comparison. However, both of these elements help to better inform our understanding of the associations within this dataset and thus the results will be presented below.

Below I outline the ways that I break down the data for these analyses, keeping in mind the distinction stated above of what is central to our hypotheses and what is less central but still important to investigate.

First, I examine the amount of expression- how much did the expresser (or perceiver) report expressing emotion verbally (or nonverbally)? Second, I examine the valence of expression- how positive (or, separately, negative) did the expresser (or perceiver) report their expression to be? Each of these pieces (amount and valence) captures an element of emotional expression and allows us to test our hypotheses. Although I made no specific predictions about the valence of expression and how that might relate to perceptions of the three functions in which I was interested, valence of expression is a facet of how emotion is expressed and is therefore worth considering as another way to look at emotional expression in these analyses.

Additionally, because I tested for links between levels of expression and these functions within dyads, I examine these links across the different types of reports made (those by the expresser and those by the perceiver). More concretely, I examine: a) The expresser's reports of having expressed emotion nonverbally and verbally predicting the expresser's reports of their own intentionality, sincerity, and vulnerability, b) The perceiver's report of the expresser having expressed emotion nonverbally and verbally predicting the perceiver's report of the expresser's intentionality, sincerity and vulnerability, c) The expresser's reports of having expressed emotion nonverbally and verbally predicting the *perceiver's* reports of the expresser's intentionality, sincerity and vulnerability, and d) The perceiver's report of the expresser having expressed emotion nonverbally and verbally predicting the *expresser's* report of intentionality, sincerity and vulnerability. The first set of analyses (expresser-expresser) allows me to examine what was happening within one person's head, specifically the person doing the expressing, and how they might draw these connections. Similarly, the second set (perceiver-perceiver) allows me to evaluate what is happening entirely within the perceiver's head and what connections they were drawing between expressions and functions. Finally, the last two sets allow me to see how each

partner's interpretation of the expresser's expressions might cross over the relationship and be linked to the other partner's ratings of the functions.

Adding another layer to these analyses is the fact that participants in this study gave distinct sets of evaluations for positive and negative discussions. To evaluate these accurately in the emotional context most relevant to each set of reports, all analyses are separated by positive and negative discussion reporting. However, participants did report on the expression of both positive and negative emotions within both types of discussions.

As stated above, some of the variables for these analyses are measured on different scales within the original dataset (with different scale lengths and different endpoints). For example, some items are measured along a 1-7 Likert scale whereas others are measured as proportions along a scale from -1 to +1. To standardize these variables across all analyses and make the output values more directly comparable, all variables were z-scored, unless otherwise indicated.

Results are presented below grouped according to outcome variable (intentionality, sincerity-genuineness, vulnerability). Within each outcome variable, findings are further broken down according to valence of discussion (positive and negative) and according to question type (amount and valence).

For each analysis, I added an interaction term to capture how the interaction between verbal and nonverbal emotional expression might relate to each of these three outcome variables. These interactions, as stated above, are not central to my hypotheses. However, as stated at the outset of this dissertation, I am interested in the potentially differential functions of each channel of expression, but I acknowledge that verbal and nonverbal expressions occur in tandem and that they likely interact with one another in how they affect judgements and behavior (Bavelas et al.,

1990). To help better understand how the two channels of expression interact to impact the outcome variables of interest, these interaction terms were added and broken down.

When examining amount of expression, this interaction is between the amount of verbal and nonverbal expression. Alternatively, when examining valence of expression, this interaction is between verbal positivity and nonverbal positivity.⁷

Results

Intentionality

A. Positive Discussions- Amount

To test the hypothesis that expresser's verbal emotional expression would significantly and positively predict perceptions of the expresser's intentionality, I conducted a series of two APIM models examining expresser's and perceiver's reports of the expresser's amount of verbal and nonverbal expression predicting reports of both 1) the expresser's ratings of their own intentionality, and 2) the perceiver's ratings of the expresser's intentionality.

First, a model tested whether expressers' reports of their own verbal expression and perceiver's reports of the expresser's verbal expression predicted intentionality as reported by the expresser. Simultaneously, I tested whether expresser's reports of their own nonverbal expression, or perceiver's reports of the expresser's nonverbal expression, might predict intentionality (although this was not predicted).

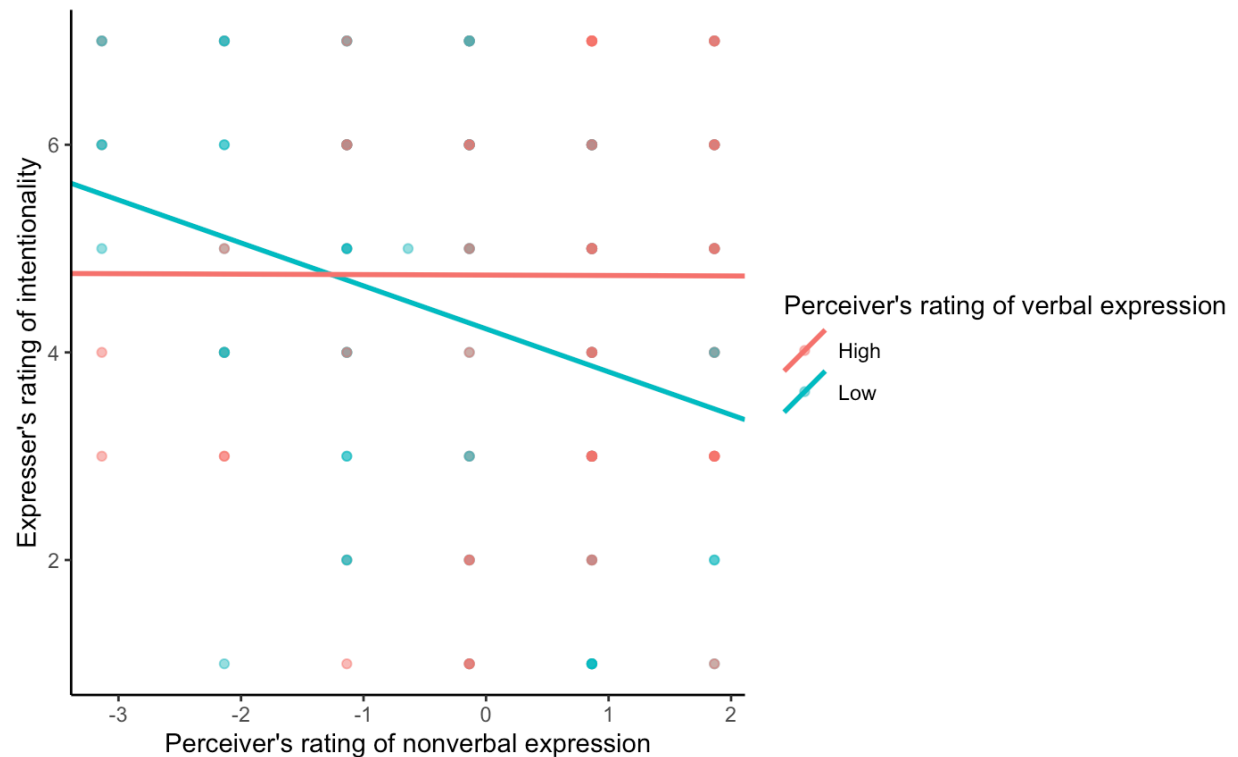
There was a significant and unpredicted interaction between the perceiver's reports of how much the expresser expresses verbally and the perceiver's reports of how much the expresser expresses nonverbally on the expresser's ratings of their own intentionality, $b = 0.16, p$

⁷ To enhance understandability of these results (especially given the volume of potential options to test these questions within this dataset), some additional analyses that were conducted are included in Appendix E. Additionally, to aid in interpretation, only significant effects (with the exception of simple effects for interactions) are directly reported.

= .02. When I broke this interaction down, I found that when the perceiver reported the expresser's verbal expression as low, the more the perceiver reported the expresser to be expressing nonverbally, the *less* intentional the expresser rated themselves to be, $b = -0.41, p = .003$. However, when the perceiver's rating of the expresser's verbal expression was high, there was no additional value of nonverbal expression for predicting expresser's ratings of intentionality, $b = -0.004, p = .98$, see Figure 3.

Figure 3

The Interaction of Perceiver's Ratings of the Expresser's Verbal and Nonverbal Expression on Expresser's Rating of Their Own Intentionality



In addition to this interaction, the *perceiver's* ratings of how much the expresser expressed emotion nonverbally significantly (and negatively) predicted how intentional the *expresser* rates themselves to be. The more nonverbal expression the perceiver rated the expresser to be demonstrating, the less intentional the expressers rated themselves to be, $b = -0.19, p = .02$.

Further, as predicted, the expresser's rating of their own verbal expression significantly predicted how intentional the *expressers* rated themselves to be, $b = 0.23, p = .003$. The expresser's rating of their own nonverbal expression also significantly predicted how intentional the expressers rate themselves to be, $b = 0.17, p = .03$.

Second, the same APIM model was tested to see if expresser's and perceiver's reports of the expresser's verbal and nonverbal expression predicted the *perceiver's* report of how intentional the expresser is. There were no significant interactions, but perceiver's ratings of the amount of emotion the expresser verbally conveyed significantly (and positively) predicted the extent to which the perceiver rated the expresser as intentional, $b = 0.25, p = .005$.

B. Positive Discussions- Valence

To test again the hypothesis that expresser's and perceiver's reports of emotional expression predict perceptions of the expresser's intentionality, we turn to examining how valence measures of expression predict reports of intentionality. In parallel to above, with a necessary expansion, a series of four APIM models were conducted to examine, within positive discussions, 1) how expresser's and perceiver's reports of the *positivity* of the expresser's verbal and nonverbal expression predict the expresser's report of their intentionality, 2) how expresser's and perceiver's reports of the *negativity* of the expresser's verbal and nonverbal expression predict the expresser's report of their intentionality, 3) how expresser's and perceiver's reports of the *positivity* of the expresser's verbal and nonverbal expression predict the perceiver's reports of the expresser's intentionality and 4) how expresser's and perceiver's reports of the *negativity* of the expresser's verbal and nonverbal expression predict the perceiver's report of the expresser's intentionality.

First, a model was tested to see if expressers' and perceivers' ratings of the positivity of the expressers' verbal and nonverbal expressions predicted the expresser's ratings of their own intentionality. There were no significant interactions, but the expresser's rating of the positivity of their own verbal expression significantly predicted the expresser's ratings of how intentional they were, $b = 0.35, p = .001$.

Second, the same APIM model was tested to see if negativity of expression (from expresser and perceiver reports of the valence of the expresser's verbal and nonverbal expression) predicted expresser's ratings of their own intentionality. There were no significant interactions or main effects

Third, the same APIM model was tested to see if positivity of expression predicted *perceiver's* ratings of the expresser's intentionality. Intriguingly, there were no significant interactions or main effects.

Fourth, the same APIM model was tested to see if negativity of expression predicted perceiver's ratings of the expresser's intentionality. There were no significant interactions or main effects.

C. Negative Discussions- Amount

Here again, I tested the same APIM models as above in negative discussions. To test the hypothesis that expresser's and perceiver's reports of the expresser's verbal and nonverbal expression would predict reports of the expresser's intentionality, two models were explored: 1) a model looking at expresser's reports of the expresser's intentionality and 2) a model looking at perceiver's reports of the expresser's intentionality.

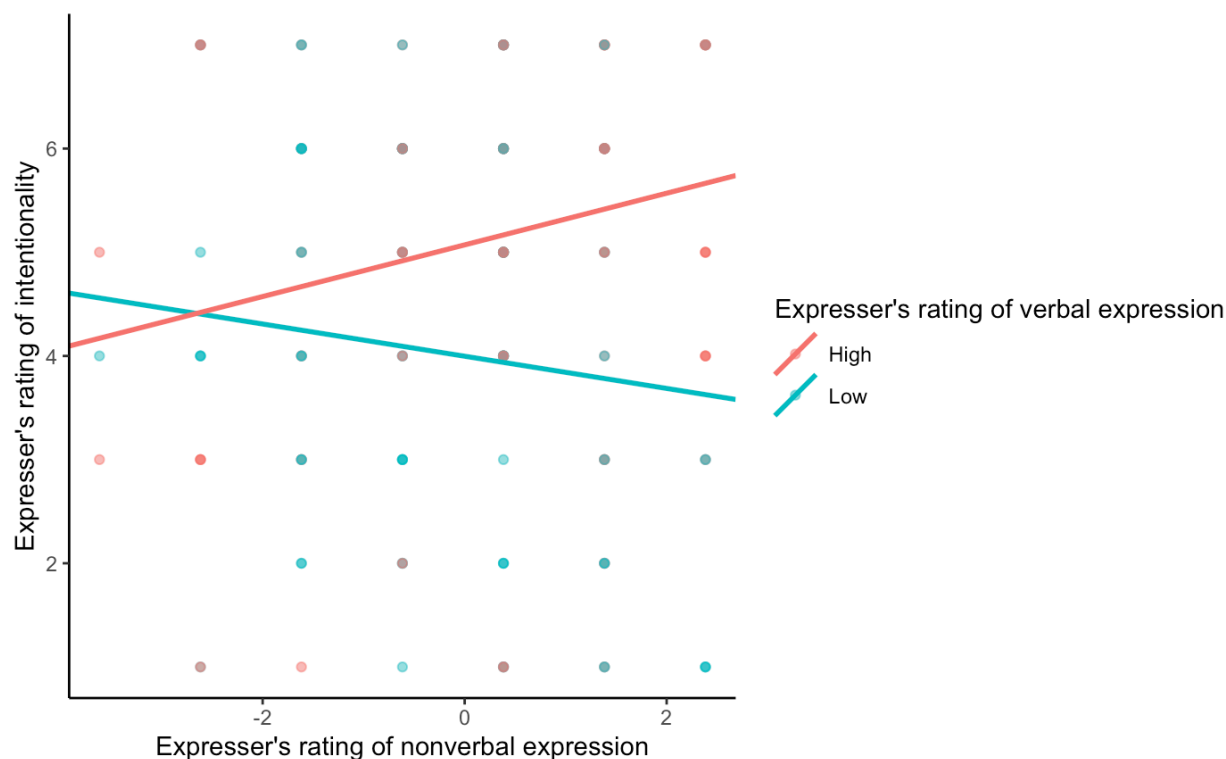
First, a model examined the links between expresser's reports of how much they expressed verbally and nonverbally and perceiver's reports of how much the expresser expressed verbally and nonverbally with the expresser's reports of how intentional they are, this time in negative discussions. There was a significant and unpredicted interaction between expresser's reports of the amount of their verbal expression and expresser's reports of the amount of their nonverbal expression on expresser's report of how intentional they were, $b = 0.17, p = .03$. When I broke this down, I found that when expresser's reports of verbal expression are low, there are

no significant differences in ratings of intentionality across ratings of nonverbal expression, $b = -0.16$, $p = .25$. However, when expresser's reports of their own verbal expression are high, expressers rated themselves as more intentional when they were expressing less nonverbally, $b = 0.25$, $p = .03$, see Figure 4.

Further, expresser's reports of how much they expressed emotion verbally also significantly predicted how intentional they rated themselves to be, $b = 0.30$, $p < .001$.

Figure 4

The Interaction of Expresser's Self-Reported Ratings of their Verbal and Nonverbal Expression on Expresser's Ratings of Their Own Intentionality



Second, the same APIM model was examined to evaluate the relationship between the expresser's and the perceiver's reports of expression and the perceiver's reports of the expresser's intentionality. There were no significant interactions, but expresser's ratings of their verbal expressiveness negatively, and unexpectedly, predicted perceiver's ratings of how intentional the expresser is, $b = -0.19$, $p = .01$. In contrast, but in line with my predictions, the perceiver's ratings of the expresser's verbal expressiveness significantly, and positively, predicted the perceiver's ratings of how intentional the expresser is, $b = 0.33$, $p < .001$.

D. Negative Discussions- Valence

In parallel to the analyses above within positive discussions, I ran another test of my hypotheses using the predictor variables of expressive valence within negative discussions. As

before, this involved running a series of four APIM models examining 1) how the expresser's and the perceiver's reports of the *positivity* of the expresser's verbal and nonverbal expression predicted the expresser's report of their intentionality, 2) how the expresser's and the perceiver's reports of the *negativity* of the expresser's verbal and nonverbal expression predicted the expresser's report of their intentionality, 3) how the expresser's and the perceiver's reports of the *positivity* of the expresser's verbal and nonverbal expression predicted the perceiver's reports of the expresser's intentionality and 4) how the expresser's and the perceiver's reports of the *negativity* of the expresser's verbal and nonverbal expression predicted the perceiver's reports of the expresser's intentionality.

First, a model tested the links between the expresser's and the perceiver's reports of the positivity of the expresser's verbal and nonverbal expressiveness and expresser's perceptions of their own intentionality. There were no significant interactions or main effects.

Second, a model tested whether the negativity of the expresser's verbal and nonverbal emotional expressions predicted the expresser's perceptions of their own intentionality. There were no significant interactions or main effects.

Third, the same APIM model tested the associations between reports of the positivity of the expresser's expression and the *perceiver's* ratings of the expresser's intentionality. There were no significant interactions or main effects.

Finally, the same model tested the associations between the negativity of the expresser's expression and the perceiver's ratings of the expresser's intentionality. There were no significant interactions or main effects.

Vulnerability

For each of the remaining two outcome variables (perceived vulnerability and sincere genuineness of the expresser), I conducted identical analyses to those conducted above for intentionality. The results of these analyses will be presented in the same format and structure, and I note that there were no differences in which analyses test the central hypotheses and which do not. Thus, the results of these analyses will be presented with less explanation of the analysis plan.

To test one of my primary hypotheses that verbal emotional expression predicts perceptions that the expresser is more vulnerable, I conducted the same sets of analyses examining how the expresser's and the perceiver's reports of the expresser's verbal and nonverbal expression might predict perceptions of the expresser's vulnerability.

A. Positive Discussions- Amount

To test the hypothesis of how the expresser's and perceiver's reports of the amount of verbal and nonverbal emotion expressed by the expresser might predict reports of how vulnerable the expresser is, I ran two APIM models using 1) expresser's reports of their own vulnerability and 2) perceiver's reports of the expresser's vulnerability as outcome measures.

In the first model assessing how reports of amount of the expresser's verbal and nonverbal expressions predicted expresser's reports of their own vulnerability, there were no significant interactions and no significant main effects.

In the second, parallel, model assessing how reports of amount of the expresser's verbal and nonverbal expressions predicted perceiver's reports of the expresser's vulnerability, there were no significant interactions and no significant main effects.

B. Positive Discussions- Valence

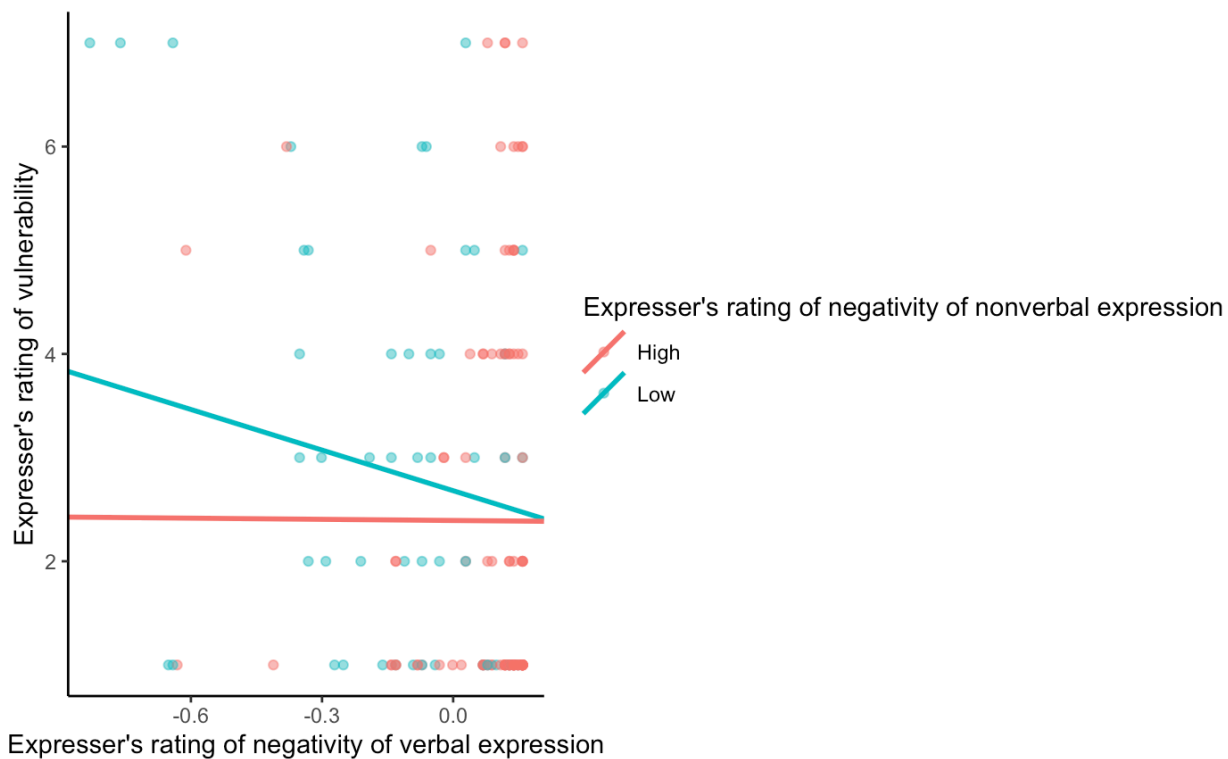
As before, I conducted the same series of four APIM models to assess how expresser's and perceiver's reports of the valence (positive, and separately, negative) of the expresser's verbal and nonverbal emotional expression predicted how vulnerable the expresser was.

First, I tested a model evaluating how expresser's and perceiver's reports of the positivity of the expresser's verbal and nonverbal expression predicted the expresser's reports of how vulnerable they are. There were no significant main effects or interactions.

Second, I examined a model that tested how expresser's and perceiver's reports of the negativity of the expresser's expression predicted the expresser's reports of how vulnerable they were. There was a significant and unpredicted interaction between the expresser's report of the negativity of their verbal expression and the expresser's report of the negativity of their nonverbal expression, $b = 0.11, p = .04$. Interestingly, when I broke this interaction down, there were no significant simple slopes. When the expresser's rating of the negativity of their nonverbal emotional expression was low, the negativity of verbal expression did not matter for expresser's ratings of their own vulnerability, $b = -1.31, p = 0.15$. When the expresser's rating of the negativity of their nonverbal emotional expression was high, the expresser's rating of the negativity of their verbal expression also did not matter for the expresser's ratings of their own vulnerability, $b = -0.04, p = .97$, see Figure 5. When the expresser feels they are expressing more negative nonverbal emotion, the amount of negative verbal emotion does not matter; here they are rating themselves similarly on vulnerability regardless. In the same vein, when the expresser feels they are not expressing much negative emotion nonverbally, they perceive themselves to be similarly vulnerable regardless of how much negative emotion they express verbally.

Figure 5

The Interaction of Expresser's Ratings of the Negativity of Their Own Verbal and Nonverbal Expression on Expresser's Ratings of Their Own Vulnerability



C. Negative Discussions- Amount

In parallel to the analyses run above for positive discussions, I conducted a series of two APIM analyses to test one of the central hypotheses that expresser's and perceiver's reports of the expresser's verbal and nonverbal expression in negative discussions would predict reports of the expresser's vulnerability given by 1) the expresser and 2) the perceiver.

First, a model was tested to examine how the expresser's verbal and nonverbal expression predicted the expresser's reports of their own vulnerability. There were no significant main effects or interactions.

Second, a parallel model was tested to examine how the expresser's verbal and nonverbal amount predicted the *perceiver's* reports of the expresser's vulnerability. Again, there were no significant interactions or main effects.

D. Negative Discussions- Valence

As above, I conducted a series of four APIM analyses to test the primary hypothesis of how the positivity or negativity of the expresser's verbal and nonverbal emotional expression, in negative discussions, predicted the vulnerability of the expresser.

First, I tested a model investigating whether the positivity of the expresser's verbal and nonverbal emotional expression (as reported by the expresser and by the perceiver) predicted the vulnerability of the expresser as reported by the expresser. There were no significant interactions or main effects.

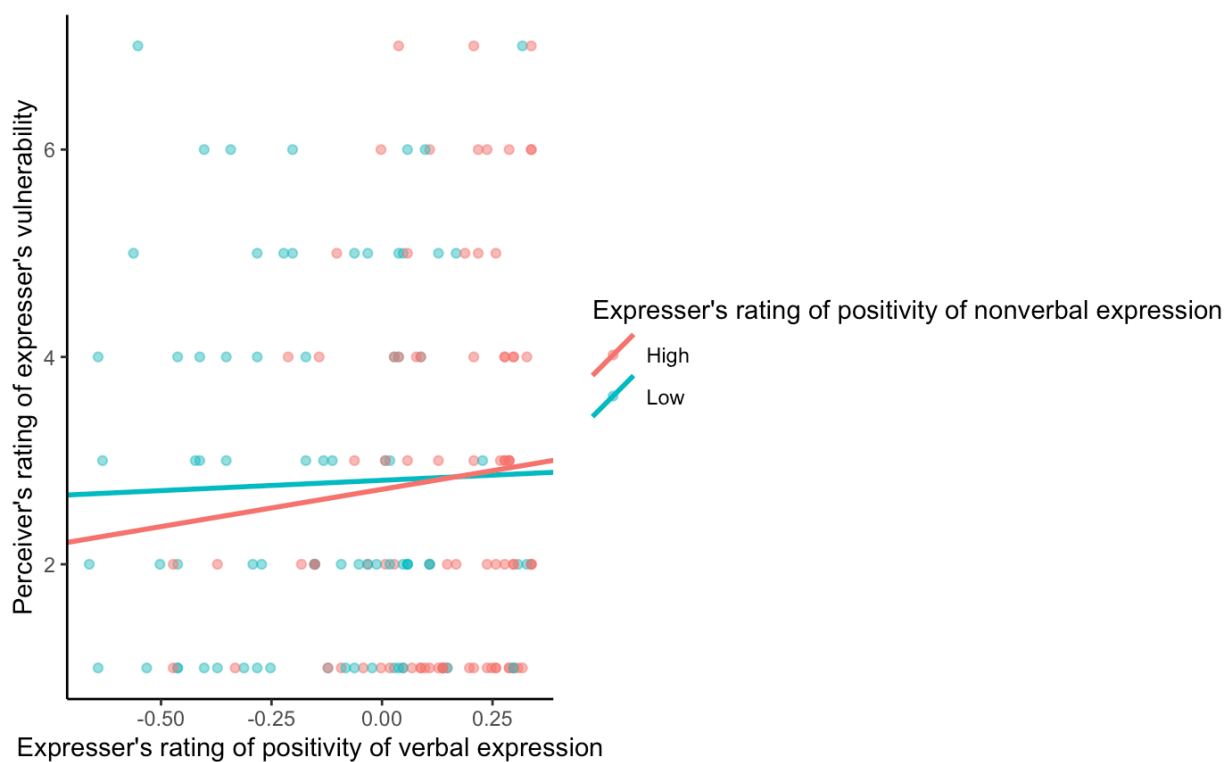
Second, I tested a model investigating whether the negativity of the expresser's verbal and nonverbal emotional expression predicted the vulnerability of the expresser as reported by the expresser. There were no significant interactions or main effects.

Third, I tested a model investigating whether the positivity of the expresser's verbal and nonverbal emotional expression predicted the vulnerability of the expresser as reported by the perceiver. There was a significant interaction between the expresser's reports of the positivity of their own verbal expression and of the positivity of their own nonverbal expression in the negative discussion on the perceiver's ratings of the expresser's vulnerability, $b = .18, p = .04$. Interestingly, when I broke this interaction down, I found there are again no significant simple slopes. When the expresser's self-report of the positivity of their nonverbal expression was low, the expresser's self-report of the positivity of their verbal expression did not matter for perceiver's ratings of the expresser's vulnerability, $b = 0.20, p = .79$. Similarly, when the

expresser's self-report of the positivity of their nonverbal expression was high, the expresser's self-report of the positivity of their verbal expression did not matter for the perceiver's ratings of the expresser's vulnerability, $b = 0.72, p = .48$, see Figure 6. In other words, both when expressers rated the positivity of their own nonverbal expression as low and as high, there was no change in how vulnerable the perceivers rated them to be based on how positive the expressers view their own verbal expression.

Figure 6

The Interaction of Expresser's Ratings of the Positivity of Their Own Verbal and Nonverbal Expression on Perceiver's Ratings of the Expresser's Vulnerability



Fourth, I tested a model investigating whether the negativity of the expresser's verbal and nonverbal emotional expression predicted the vulnerability of the expresser as reported by the perceiver. There were no significant interactions or main effects.

Sincerity

To test another one of my primary hypotheses, that greater nonverbal emotional expression would be linked to greater perceptions that the expresser was sincere and genuine, I conducted the same sets of analyses examining how the expresser's and the perceiver's reports of the expresser's verbal and nonverbal expression predicted perceptions of the expresser's sincerity.

There is considerable conceptual overlap between the constructs of sincerity and genuineness, and these measures were highly and significantly correlated in my sample. In positive discussions, the expresser's ratings of their own genuineness were highly correlated with the expresser's ratings of their own sincerity, $r(328) = .73, p < .001$. Similarly, in negative discussions, the expresser's ratings of their own genuineness were highly and significantly correlated with the expresser's ratings of their own sincerity, $r(326) = .76, p < .001$. Additionally, in positive discussions, the perceiver's reports of how genuine they found the expresser to be was highly correlated with the perceiver's reports of how sincere they found the expresser to be, $r(326) = .79, p < .001$. Finally, in negative discussions, the perceiver's ratings of how genuine they found the expresser to be was highly and significantly correlated with the perceiver's ratings of how sincere they found the expresser to be, $r(320) = .78, p < .001$. Given this, I collapsed these two items by averaging across them to create a composite measure of sincere genuineness, which I refer to simply as sincerity in the following write-up.

A. Positive Discussions- Amount

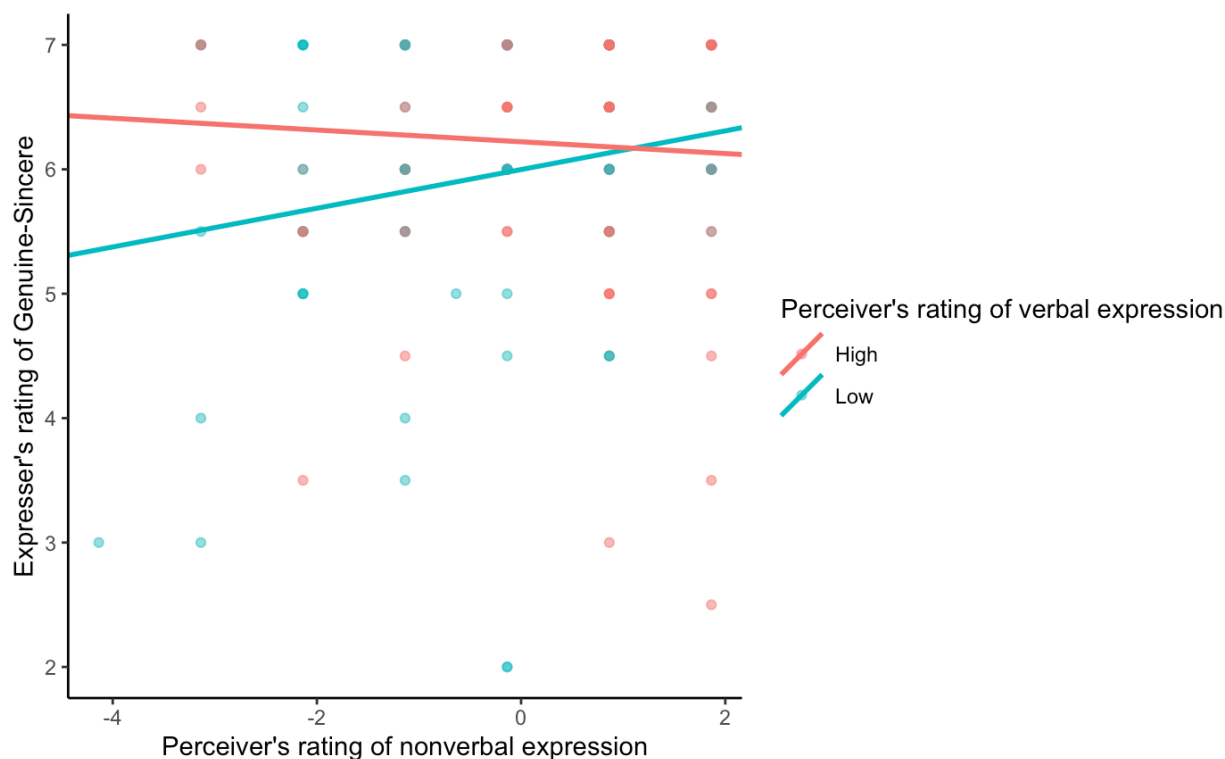
As before, I conducted two APIM analyses to examine the primary hypotheses that the expresser's and the perceiver's reports of the expresser's verbal and nonverbal expressive

amount would predict perceptions of the expresser's sincerity as reported by 1) the expresser and 2) the perceiver in positive discussions.

First, I tested a model to see if expresser's verbal and nonverbal emotional expression amount predicted the expresser's reports of their own sincerity. There was a significant interaction between the perceiver's ratings of how much the expresser expressed emotion verbally and how much the expresser expressed emotion nonverbally on the expresser's report of how sincere they are, $b = -0.15$, $p = .009$. When I broke down the interaction, I find that one of the simple slopes was significant. When the perceiver rates the expresser's verbal expression to be low, the expresser rated themselves as more sincerely genuine when the perceiver also rated the expresser as more nonverbally expressive, $b = 0.14$, $p = 0.03$. However, when the perceiver rated the expresser's verbal expression to be high, the expresser rated themselves similarly genuinely sincere regardless of the amount of the nonverbal expression, $b = -0.04$, $p = .54$, see Figure 7.

Figure 7

The Interaction of Perceiver's Ratings of the Expresser's Verbal and Nonverbal Expression on Expresser's Ratings of Their Own Sincerity



There was also a significant main effect of expresser's verbal self-report. That is, the amount that an expresser self-reports expressing emotion verbally significantly predicted the expresser's report of how sincere they were, $b = 0.26, p < .001$. Additionally, there was a significant main effect of expresser's self-reported nonverbal expression such that the amount that an expresser self-reports expressing nonverbally significantly predicted the expresser's report of how sincere they were, $b = 0.34, p < .001$. In other words, the more the expresser reported expressing emotion, both verbally and nonverbally, the more that expresser also rated themselves as sincere.

Second, I tested a model to see if expresser's and perceiver's reports of the expresser's verbal and nonverbal expression predicted *perceiver's* reports of how sincere the expresser is.

There were no significant interactions, but there were two significant main effects. First, the perceiver's reports of how much the expresser is expressing emotion verbally significantly predicted the perceiver's rating of how sincere the expresser is, $b = 0.33, p < .001$. Second, the perceiver's reports of how much the expresser is expressing emotion nonverbally significantly predicted the perceiver's rating of how sincere the expresser is, $b = 0.35, p < .001$. In other words, in parallel to the judgments made by the expressers, the perceivers rated the expressers to be more sincere the more the perceivers judged the expressers to have expressed emotion verbally and nonverbally.

B. Positive Discussions- Valence

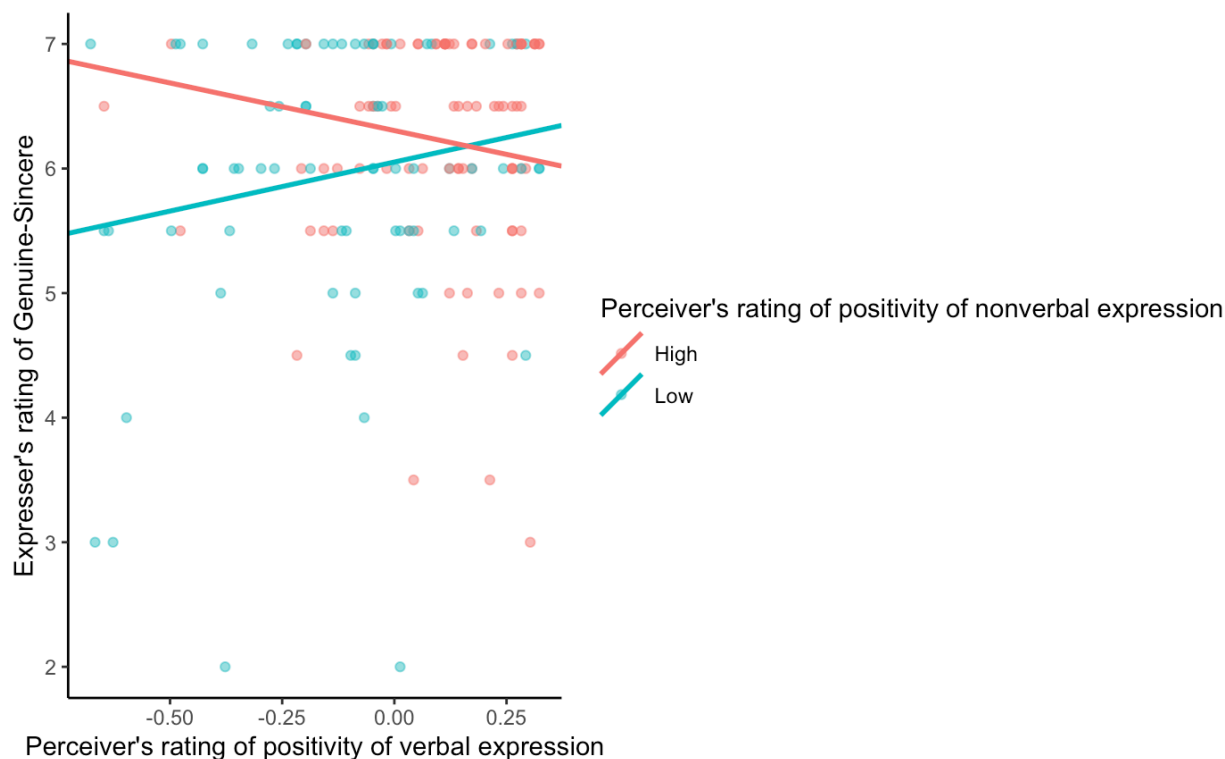
As above, to test again the primary hypothesis concerning how the expresser's verbal and nonverbal emotional expression might predict perceptions of how vulnerable the expresser is, I examined another facet of emotional expression, the valence of the expression. To test these relationships, I conducted a series of four APIM analyses to test how the expresser's and the perceiver's reports of the positivity of the expresser's verbal and nonverbal expression predict expresser's sincerity.

First, I tested a model to see if the positivity of the expresser's verbal and nonverbal expressions predicted the expresser's ratings of how sincere they were. There was a significant interaction between the perceiver's reports of the positivity of the expresser's verbal expression and the perceiver's reports of the positivity of the expresser's nonverbal expression on expresser's ratings of their sincerity, $b = -0.13, p = .03$. Broken down, when perceivers rate that the expresser's nonverbal positivity was low, expressers rate themselves as more sincere when the perceivers ratings of the expresser's verbal positivity was high, $b = 0.79, p = .04$. But if perceivers rate expressers to be expressing a high level of positivity in their nonverbal

expressions, they are perceived to be equally sincere regardless of how much positivity they express in their verbal expressions, $b = -0.76$, $p = .14$, see Figure 8.

Figure 8

The Interaction of Perceiver's Ratings of the Positivity of Expresser's Verbal and Nonverbal Expression on Expresser's Ratings of Their Own Sincerity



There was also one significant main effect of the expresser's ratings of their own nonverbal expression. The extent to which expressers rated their own nonverbal expression to be positive in a positive discussion significantly predicted the expresser's ratings of how sincere they were, $b = 0.23$, $p = .01$.

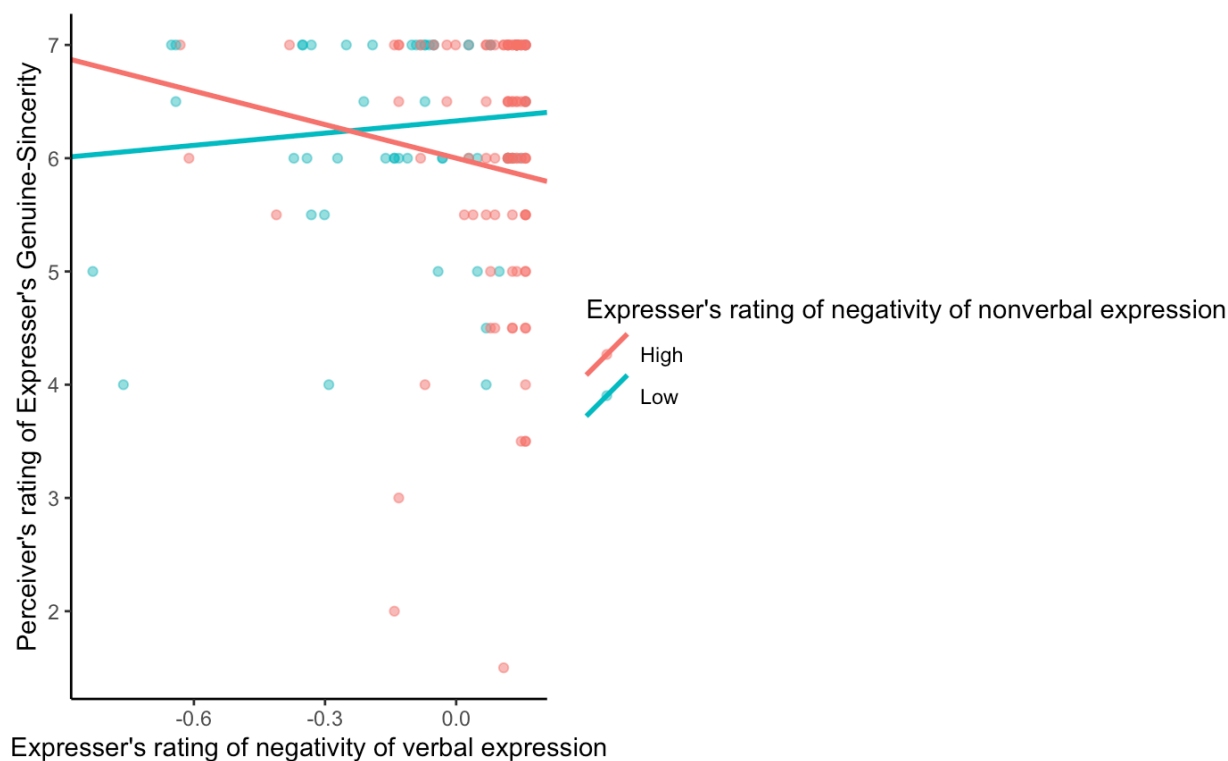
Second, I tested a model to see if the negativity of the expresser's and of the perceiver's reports of the expresser's verbal and nonverbal expression predicted the expresser's reports of their own sincerity. There were no significant interactions.

Third, I tested a model to see if the positivity of the expresser's and the perceiver's reports of the expresser's verbal and nonverbal expression predicted the *perceiver's* reports of the expresser's sincerity. There were no significant interactions, but there were two significant main effects. Perceiver's ratings of how positive the expresser's verbal emotional expression was significantly predicted how sincere the perceiver rated the expresser to be, $b = 0.20, p = .02$. Similarly, perceiver's ratings of how positive the expresser's nonverbal emotional expression was significantly predicted how sincere the perceiver rated the expresser to be, $b = 0.30, p < .001$.

Fourth, I tested a model to examine whether the negativity of the expresser's and of the perceiver's reports of the expresser's verbal and nonverbal expression predicted the perceiver's reports of the expresser's sincerity. There was a significant interaction between the expresser's rating of the negativity of their verbal expression and the expresser's rating of the negativity of their nonverbal expression on perceiver's ratings of how sincere the expresser is, $b = -0.14, p = .02$. When I broke this down, there were no significant simple slopes. That is, when the expresser's ratings of their own nonverbal negativity are low, the perceivers rated the expressers as equally sincere regardless of the expresser's ratings of the negativity of their verbal expression, $b = 0.36, p = .51$. Similarly, when the expresser's ratings of their own nonverbal negativity are high, the perceivers rated the expressers as equally sincere regardless of the expresser's ratings of the negativity of their verbal expression, $b = -0.99, p = .10$, see Figure 9. In other words, when expressers rated their nonverbal expression to be both low in negative valence and also high in negative valence, the perceivers rated them to be similarly sincere no matter how negative their verbal expression was.

Figure 9

The Interaction of the Expresser's Rating of the Negativity of Their Nonverbal and Verbal Expression on the Perceiver's Rating of the Expresser's Sincerity



C. Negative Discussions- Amount

In parallel to the above analyses for the positive discussions, I again tested one of the primary hypotheses of this chapter concerning how the expresser's verbal and nonverbal emotional expression might predict 1) the expresser's sincerity as reported by the expresser and 2) the expresser's sincerity as reported by the perceiver.

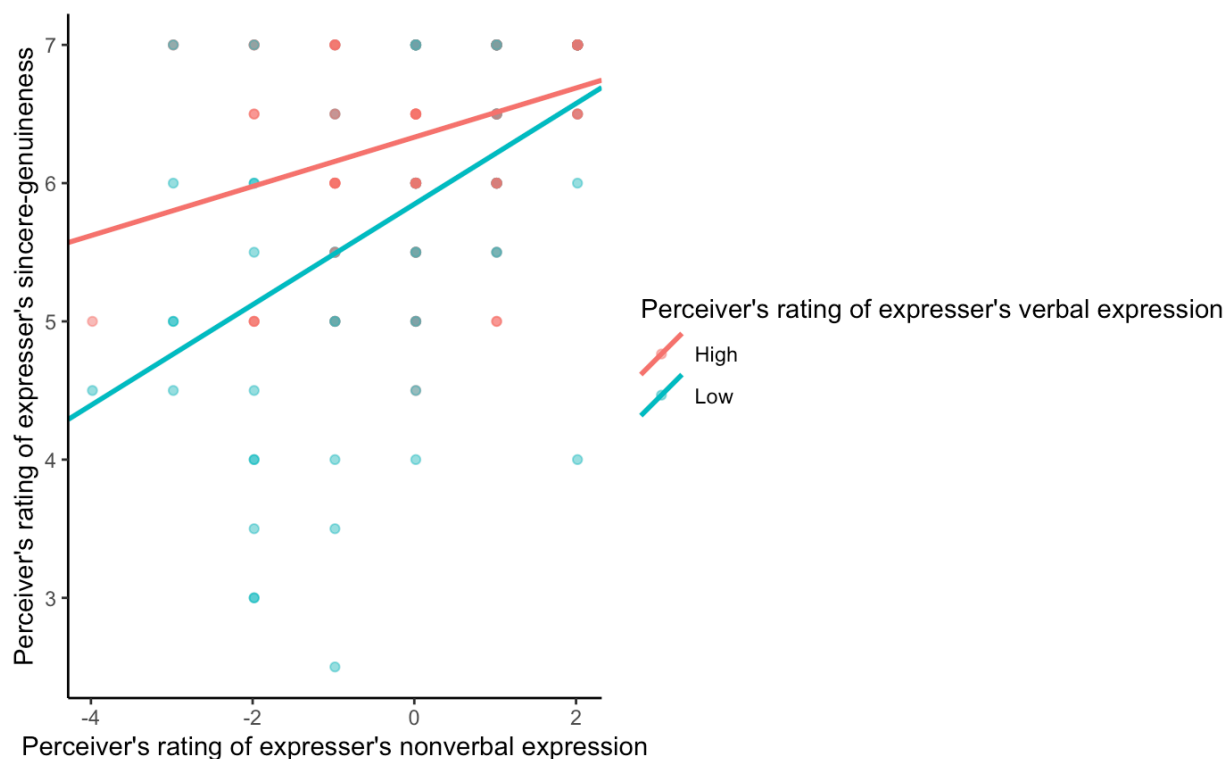
First, I tested an APIM model examining how the amount of verbal and nonverbal emotion expressed by the expresser predicted the expresser's report of their own sincerity. There were no significant interactions, but there were two significant main effects. The expresser's rating of how much emotion they expressed verbally significantly predicted how sincere they

rate themselves to be, $b = 0.42, p < .001$. Similarly, the expresser's rating of how much emotion they expressed nonverbally significantly predicted how sincere they rate themselves to be, $b = 0.29, p < .001$.

Second, I tested an APIM model to assess how the expresser's and the perceiver's reports of verbal and nonverbal expression might predict how sincere the *perceiver* rates the expresser to be. There was a significant interaction between how much the perceiver rated the expresser to express verbally and how much the perceiver rated the expresser to express nonverbally on the perceiver's ratings of how and sincere the expresser is, $b = -0.13, p = .03$. When perceiver's ratings of the expresser's verbal expressivity were low, the perceivers rated the expressers to be more sincere when the perceiver also rated the expresser's nonverbal expressivity to be high, $b = 0.36, p < .001$. Further, when perceiver's ratings of the expresser's verbal expressivity were high, perceivers rated the expressers as more sincere if the perceivers also rated the expresser's nonverbal expressivity as high, $b = 0.18, p = .006$, see Figure 10. In other words, both when the perceiver rated the expresser to be low, as well as high, in verbal expression, the perceiver rated the expresser as more sincere when the expresser expressed more emotion nonverbally.

Figure 10

The Interaction of the Perceiver's Rating of the Expresser's Verbal and Nonverbal Expression on the Perceiver's Rating of the Expresser's Sincerity



Additionally, the perceiver's ratings of how much the expresser verbally expressed significantly predicted how sincere the perceiver rated the expresser to be, $b = 0.24, p < .001$. In parallel, the perceiver's ratings of how much the expresser nonverbally expressed significantly predicted how sincere the perceiver rated the expresser to be, $b = 0.40, p < .001$.

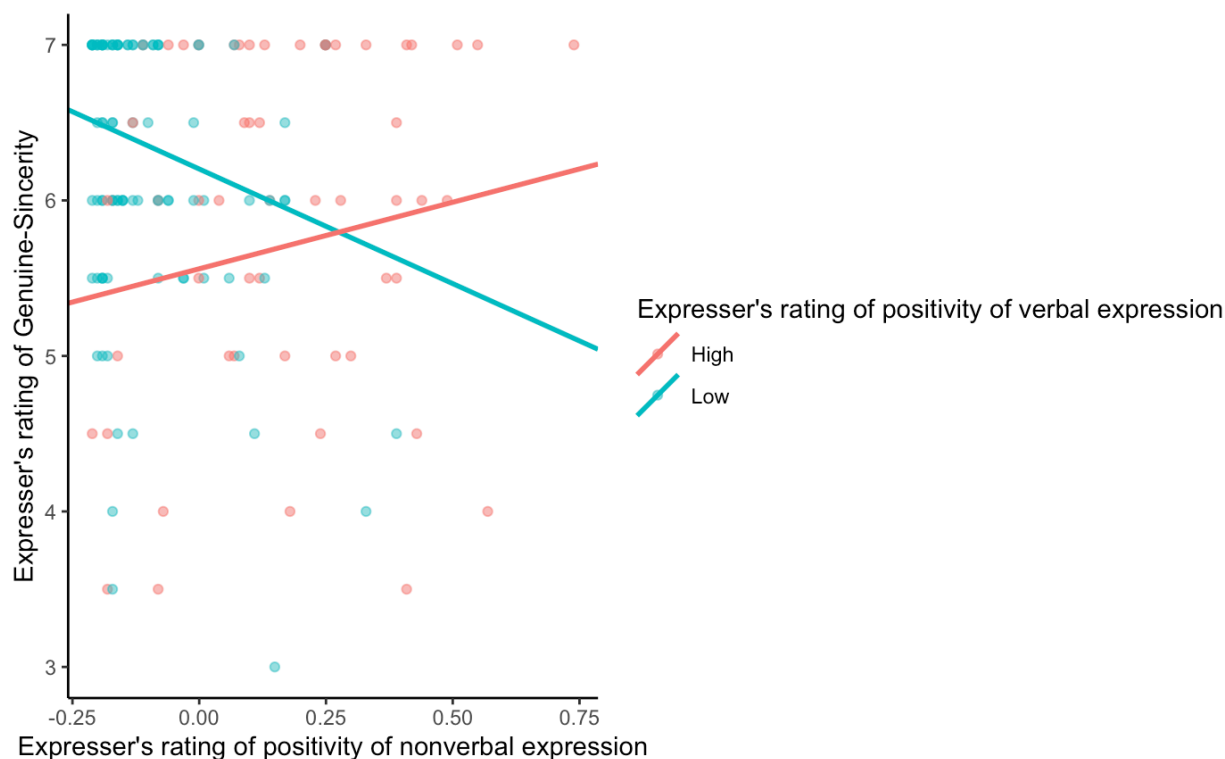
D. Negative Discussions- Valence

As I did for positive discussions, I conducted a series of four APIM analyses to examine the primary hypothesis of how the valence of the expresser's verbal and nonverbal emotional expression might predict perceptions of how sincere the expresser is in negative discussions.

First, I tested a model evaluating how expresser's and perceiver's reports of the positivity of the expresser's verbal and nonverbal expression predicted the expresser's ratings of their own sincerity. There was a significant interaction between expresser's reports of the positivity of their own verbal expression and the positivity of their own nonverbal expression on expresser's ratings of their own sincerity, $b = 0.17, p = .03$. When the expresser's ratings of the positivity of their own verbal emotional expression were low, the expressers rate themselves as *more* sincere if their nonverbal expression was also low in positivity, $b = -1.47, p = .03$. However, when the expresser's ratings of the positivity of their own verbal emotional expressions were high, their ratings of how sincere they were do not vary based on how positive they rated their nonverbal expression to be, $b = 0.86, p = .12$, see Figure 11. Interestingly, this seems to suggest that the sincerest expressions were ones that were matched in positivity of the verbal and nonverbal expression, but this appears to only be the case when both verbal and nonverbal expressions are low rather than also occurring when both are high.

Figure 11

The Interaction of the Expresser's Rating of the Positivity of Their Own Verbal and Nonverbal Expression on Expresser's Ratings of Their Own Sincerity



There was also a significant main effect of expresser's ratings of the positivity of their own verbal expression negatively predicting how sincere they rated themselves to be, $b = -0.25$, $p = .04$. This means that, in a negative discussion, the more positive an expresser rated their verbal expression to be, the less sincere they rated themselves to be. Additionally, perceiver's ratings of the positivity of the expresser's nonverbal expressions significantly and negatively predicted how sincere expressers rated themselves to be, $b = -0.28$, $p = .02$. In negative discussions, the more that perceivers rated the expressers to be expressing positive emotion nonverbally, the less sincere the expressers rated themselves to be.

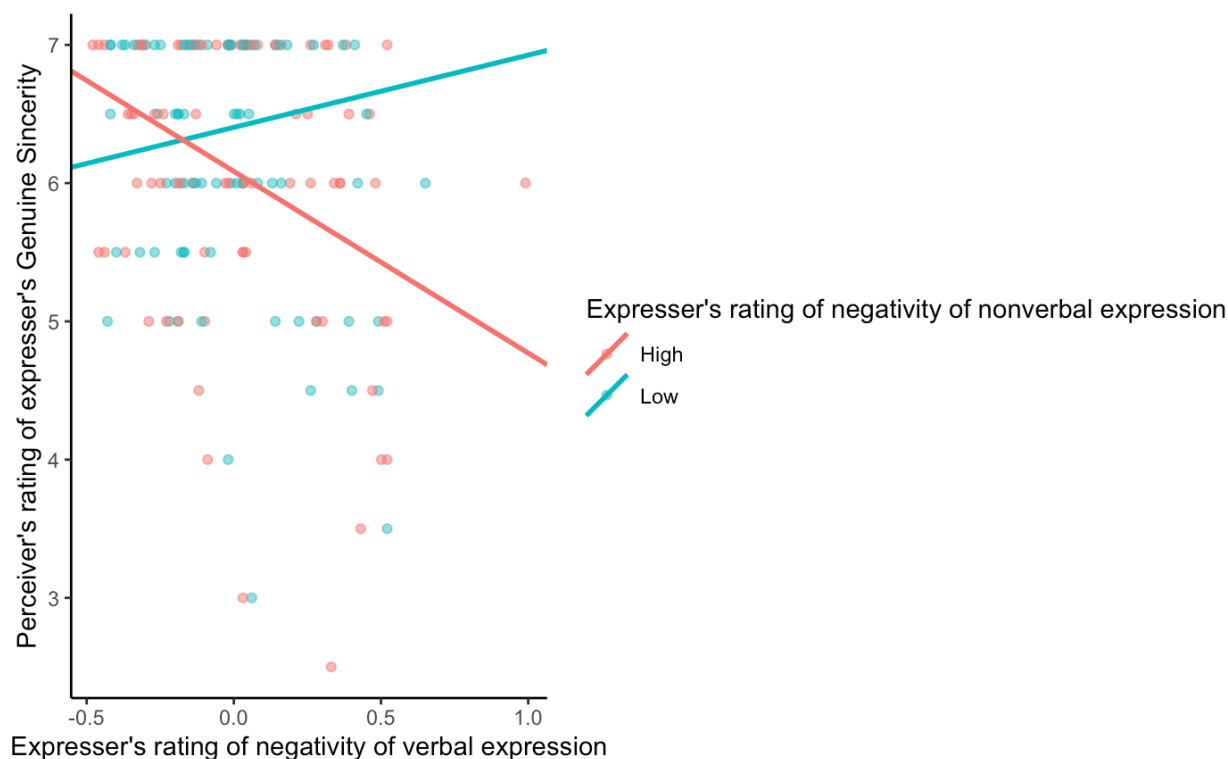
Second, I tested a model examining how negativity of the expresser's verbal and nonverbal expression predicted how sincere the expresser rates themselves to be. There were no significant interactions or main effects.

Third, I tested a model examining how positivity of the expresser's verbal and nonverbal expression predicted how sincere the *perceiver* rates the expresser to be. There were no significant interactions or main effects.

Fourth, I tested a model examining how negativity of the expresser's verbal and nonverbal expression predicted how sincere the perceiver rates the expresser to be. There was a significant interaction between the expresser's reports of the negativity of their verbal and nonverbal emotional expression on the perceiver's ratings of how sincere the expresser is, $b = -0.28, p = .002$. When expresser's self-report of the negativity of their own nonverbal expression was low, the perceiver rated the expresser to be equally as sincere regardless of how negative the expresser reported their verbal expression to be, $b = 0.52, p = .33$. However, when expresser's self-report of the negativity of their own nonverbal expression was high, the more expressers reported expressing negative verbal expression, the less sincere the perceiver rated the expresser to be, $b = -1.31, p < .001$, see Figure 12.

Figure 12

The Interaction of the Expresser's Rating of the Negativity of Their Verbal and Nonverbal Expression on Perceiver's Rating of the Expresser's Sincerity



Further, perceiver's ratings of how negative the expresser's nonverbal emotional expressions were significantly and negatively predicted how sincere the perceiver rated the expresser to be, $b = -0.20, p = .03$.

Discussion

The primary goal of this chapter was to improve our understanding of how verbal and nonverbal emotional expressions are perceived in close, romantic relationships. To start, I was interested in the fundamental issue of describing how verbal and nonverbal expressions are reflected on (by the expresser) and perceived (both by the perceiver and by objective, outside coders) in the most basic ways. That is, I was interested in examining how these different

sources of accuracy might report the basics of how much emotion is expressed through each channel and how positive and negative this expression is. This comparison is particularly compelling within this dataset where we can affirm that each source is reporting on the same instance of emotional expression (unlike in studies that rely on self and partner reports of more ambiguous time frames and situations). Following this, I was also interested in investigating how expressers and perceivers were taking these interpretations of the amount of emotion expressed and linking those interpretations (consciously or not) with potential functions of these expressions, specifically how intentional, vulnerable, and sincere the emotional display is. These different functions of the expression may have different consequences for the individuals and for the relationship, and this study allowed me to explore how verbal and nonverbal expressions may differentially serve these functions.

Because of their close interdependence (Berscheid, 1983; Rusbult et al., 1998) and their shared relational history (Flora & Segrin, 2003), I predicted that expressers and perceivers would be in agreement about the amount of emotion expressed by the expresser while the coder may not be in the same agreement, which was generally supported. I also predicted that expressers who shared more emotion verbally would be perceived as more intentional, because verbal expressions are undeniable and often deliberate, which was also primarily supported by findings that greater verbal expression was linked with greater perceived intentionality as well as findings that greater nonverbal expression was linked with less perceived intentionality. I similarly predicted that greater verbal expression would be associated with higher perceptions of vulnerability, which was not supported. Finally, I also predicted that greater nonverbal expression would be linked with higher perceptions of sincerity, which was supported, although there was also considerable evidence that greater verbal expression is also linked to higher

perceptions of sincerity. Each of these set of results is discussed below in more detail, with an emphasis on the results of analyses that directly tested my predictions. The results of the interactions, which were all unexpected, will be discussed insofar as they tell a coherent story.

I. Examining Three Different Sources of Accuracy

The first overarching set of questions for this chapter asked how different sources of accuracy regarding one individual's emotional expressiveness might compare to one another. The individual doing the expressing, as the person with the most direct access to their own emotional state, expressive history, personality characteristics, and more, may have a different perception of their own expression than their romantic partner does, even though this romantic partner is informed by relational history, close, interdependent proximity to the expresser, and more. Further, these two sources of accuracy about the expresser's verbal and nonverbal expression might also differ from an objective, outside coder who has a more neutral view on the expresser as well as on their relationship to their partner (along with having information about how much emotion was expressed by other couples within the study) but lacks important context such as the relational history between the two and the typicality of the expresser's verbal and nonverbal expression in that moment.

Intriguingly, and perhaps unsurprisingly, mixed evidence emerged regarding whether these different sources agree on how much emotion is expressed. In line with my prediction, expressers and perceivers were in agreement about how much nonverbal emotion was expressed by the expresser across positive and negative discussions and about how much verbal emotion was expressed in positive discussions. However, the expresser and the perceiver only agreed with the objective coders in positive discussions. Interestingly, none of the three sources were significantly correlated with one another on reports of verbal expressiveness in negative

discussions. These mixed results illustrate the inherent variability in judgments emanating from these sources, especially between those inside and outside of the couple, as I had anticipated. However, the pattern of findings indicate that the expressers and perceivers are generally in agreement with one another, which does support my idea that shared relational history and day to day interdependence affords members within a romantic dyad a relative advantage in interpreting the emotional expressions of their partner. That being said, although there is a trend in these results for expressers and perceivers to be in agreement about what one partner is expressing, there are still discrepancies between them, which indicates that each partner is picking up on different verbal and nonverbal expressions depending on their role during the discussion. This is intriguing, especially given that we are capturing these expressions in real time and we know that both partners are reporting on the same expressive scenario. Although their shared relational history and familiarity with one another is providing the partners with some advantages in similarly interpreting the expresser's emotions, it clearly does not afford a sense of complete shared understanding and interpretation. Based on these inconsistencies between what partners report, it seems likely that the shared emotional and relational lives of romantic partners is not sufficient for partners to see and hear every emotional cue in parallel to one another. Or it may be more complex than that; perhaps partners are projecting their own emotions onto each other (as would be suggested by evidence from Clark et al., 2017) while also picking up on accurate cues to emotion directly from their partner. These ideas are speculative, though, and require further exploration in future work.

Interestingly, though, these weak links (or lack of links) between the sources don't give us a clear sense of where the source of "true" accuracy might lie. Yet I would argue that these results actually highlight that there is not one "true" source of accuracy in judging emotion.

Each judge (expresser, perceiver, outside coder) constructs their own perception of the emotion expressed. They base these perceptions on the verbal and nonverbal expressions themselves, their own knowledge of emotion, the judge's current emotion, and their shared relational history (or lack thereof) with the expresser. Each is informative, and each may be consequential for the relationship.

Perhaps, for example, the expresser is focused on the social experience of having a discussion with their partner and thus "misses" the cues they emitted signaling their own emotions; these are cues that the perceiver and the coder may pick up on. Is the expresser's perception of how much emotion they expressed or their corresponding expectations of their partner's responses inaccurate? Is the perceiver's judgment, informed by relational history and the perceiver's own emotions, an inaccurate judgment? Is the judgment made by an objective coder inaccurate, even though it might lack context about the expresser as an individual and within the relationship? I would argue that they are all accurate in different ways and each lead to different outcomes.

The implications of these inconsistent associations are meaningful for both the study of emotion and for relationships, as relying on just one source for reports of verbal and nonverbal expression (say, the expresser's self-report, as is common), will miss a broader picture of how that expression (or lack thereof) is interpreted by others and what implications the expression will have for the individuals expressing and perceiving as well as for their relationship. Interestingly, especially for researchers relying on the judgments of objective coders, if the coder's judgments are unrelated to those judgments made by the expresser or the perceiver, these judgments by a coder will be unlikely to accurately predict the consequences of these expressions for the functioning of the relationship. These discrepancies between the different

sources of accuracy also have important implications for the significant number of researchers who employ self-report measures of emotional experience and expression to tap into an understanding of the true and accurate emotions of the expresser. As highlighted above, it may be that expressers are too entangled in the momentary thoughts and feelings that accompany expressing emotion to a romantic partner to be able to come away from the discussion with an accurate meta-perception of their own expression. Or perhaps the perceiver is engrossed in thoughts of their own emotional experience or is projecting their own emotion onto the partner while simultaneously picking up on some degree of an accurate expression (as work from Clark et al., 2017 suggests). This projection or internally focused thought process might then cause the perceiver to distort or miss emotional cues from the expresser. This is purely speculative, as I cannot determine from this data what might be causing these discrepant reports from the different sources of expressive reporting, but it raises an interesting point about how we interpret accuracy. Given the biases that every individual enters an emotional discussion with, including those outlined above, it seems as though we should regard each of these different sources (expresser, perceiver, and coder) as accurate in a different way. These results suggest caution in relying on one isolated source of information about an expresser's emotional expressions because it may be specific to that source's perspective and thus not generalizable to other reporting sources. This then changes the nature of the relationship between what one source reports about the expresser's emotional expressivity and relevant outcome variables, including aspects of the relationship such as satisfaction or responsiveness. For example, if an expresser and their romantic partner perceiver disagree about how much emotion the expresser is sharing nonverbally, the link between how much the expresser self-reports nonverbally expressing emotion and how committed the perceiver rates themselves to be might not matter as much as the

link between how much *the perceiver* reports the expresser to be expressing nonverbally and how committed the perceiver rates themselves to be. In this example, differences between how much the expresser and the perceiver interpret the expresser to be sharing nonverbally may be consequential for the link with the perceiver's relationship commitment. If the perceiver is considering (whether consciously or not) their own commitment to the relationship based on how vulnerable and expressive they feel their partner is with them, then the perception that matters is how vulnerable and expressive the perceiver feels the expresser is, not how vulnerable and expressive the expresser feels they are (given that the perceiver may have no way of tapping into the expresser's perceptions when they differ).

Somewhat in parallel with what we saw above, I found that the expresser's and the perceiver's ratings of the expresser's emotions did not significantly predict the coders' ratings. This lack of significant results strengthens the need for ensuring that researchers are examining each of these different sources of accuracy to better understand how they relate to one another and to relevant outcomes.

Beyond just considering how each partner (and the team of coders) interpret how much emotion is expressed by the expresser, it is also beneficial to examine how much partners match each other emotionally during these discussions. Although I did not have specific predictions about this convergence, it is interesting to note that these data provide some support for the idea of close emotional interdependence during these discussions. Across both positive and negative discussions, coders rated the partners as tightly linked on both verbal and nonverbal positivity. Further, coders also rated partners as significantly in synchrony on their verbal and nonverbal negative expressions within the positive discussions. However, coders also reported that the more one partner expressed nonverbally (in terms of the amount expressed) in a negative

discussion, the *less* their partner expressed nonverbally. Perhaps this finding, in conjunction with the lack of complete consistency in emotional expression matching between partners across all channels and all discussions, reflects the unique characteristics of this study. Because participants were instructed to discuss one person's topic, with one being assigned as expresser and the other as perceiver, it may be that these roles influenced how much each partner expressed, likely with the expresser sharing more than the perceiver. Similarly, because the topics chosen were focused on the expresser and outside of the relationship, it may be that the expresser felt stronger emotions about the topic and correspondingly expressed more. These results about nonverbal expression in negative discussions are particularly intriguing because they sit in contrast to work by Gottman (1982) demonstrating that one partner's expression of negative emotion is linked to their partner's subsequent amplification of their own negative emotional expression *in conflict discussions*. However, this contrast underlines the importance of examining expression of emotion in different types of discussions and in highly satisfied relationships, because it is clear that not all situations will elicit the same emotional synchrony in partners.

Generally, though, we do still see interdependence in the way the partners are expressing, which is particularly compelling in light of recent evidence from Sels and colleagues (2020) that evidence remains mixed for emotional interdependence in romantic couples.

It is also interesting to consider why we see some amount of matching in valence of expression but no matching (and indeed, evidence that partners are opposite) in the amount of expression. This suggests that, perhaps, partners are matching one another in the intensity of their emotional expressions even if they are expressing emotion in different amounts. This is especially true for negative expression in positive discussions, where we see that partners are

linked on both the positivity and negativity of their expression but not on how much emotion is expressed. Perhaps in the case of negativity it is even more important to match the intensity of one's partner when the emotion being expressed is less normative, as would be the case for expressing negative emotion in a positive discussion.

II. Perceptions and Reflections

The second (and most central) overarching question for this chapter of the dissertation asked whether individuals within romantic relationships have ideas about the functions that their verbal and nonverbal emotional expressions might differentially serve. More specifically, I asked whether they hold the same theories that I do, namely that more verbal emotional expression is linked to greater vulnerability and intentionality and that more nonverbal emotional expression is linked to greater sincerity.

Intentionality

I predicted that verbal emotional expressions would be associated with perceptions that the expresser is more intentional, because verbal emotional expressions are likely to be perceived to be more consciously and deliberately employed compared to nonverbal emotional expressions and thus they may signal to a perceiver that the expresser wants to share how they are feeling and wants the perceiver to understand their emotions. On the whole, I found fairly consistent support for this hypothesis, with some additional unexpected findings cropping up as well.

Across both positive and negative discussions, I found that, as expected, the more emotion the expresser expresses verbally, the more they are seen to be intentional. This is true both when expressers are rating their own expression and intentionality and when perceivers are rating how much the expresser expresses and how intentional they are. Additionally, I also found that the more positive expressers rate their verbal expression to be, the more intentional

they rate themselves to be. These findings, taken together, provide robust support for the idea that both expressers and perceivers see verbal emotional expressions as intentional, deliberate, and likely consciously chosen.

Further in line with my predictions, although more indirectly, I also found that the *perceiver's* ratings of the amount of nonverbal expression communicated by the expresser negatively predicted how intentional the *expresser* rated themselves to be. This provides some evidence that the presence of nonverbal emotional cues might be linked to a display of emotion being seen as less intentional, likely because the nonverbal cues communicate greater spontaneity and less deliberate control. I interpret this finding cautiously, though, because I also found that expresser's ratings of their own nonverbal expression are significantly and *positively* linked to ratings of their own intentionality. This mismatch between expresser and perceiver ratings could relate to the occasional mismatch between expresser and perceiver ratings of the expresser's expressions found earlier in the chapter.

Beyond these significant links, I also found two significant, and unexpected, interactions of the expresser's verbal and nonverbal expressions on how intentional they were rated to be. Although these were not anticipated, they do come together to illuminate a bit more of the consistent story found in the primary, anticipated effects. First, in positive discussions, we see that when the expresser is not expressing much emotion verbally, the more nonverbal emotion they are expressing is linked to perceptions that they are *less* intentional. This suggests that nonverbal expression is seen as spontaneous and lacking intention and is in line with the finding that perceivers who rate expressers as more nonverbally expressive also rate them as less intentional. Especially when there is no deliberate verbal expression present, the presence of these nonverbal cues seems to be tied to thinking that an expresser is less deliberate. This is

parallel to the finding in negative discussions that when the expresser is sharing *more* emotion verbally, expressers are rated as more intentional when there is less nonverbal emotional expression. This finding in particular suggests that, even when the deliberate and intentional verbal display is present, nonverbal expression would only detract from that intentionality by adding in a perception of less control.

There was, however, one puzzling effect that the more verbally expressive expressers rate themselves to be, the *less* intentional *perceiver's* rate expresser's to be. This is highly suggestive of a mismatch between the ratings of expressers and perceivers, either in how much emotion is expressed or in how much intentionality is conveyed, because we see the opposite when comparing the link between *perceiver's* ratings of the expresser's verbal emotional expression and the *perceiver's* ratings of the intentionality of the expresser.

Interestingly, I found that the bulk of the significant results for intentionality were related to how much emotion is expressed rather than how positive or negative that expression is, suggesting that there may be something less potent about valence for understanding how intentional the expresser is being.

Vulnerability

In terms of vulnerability, my primary hypothesis was that verbal emotional expression would significantly predict perceptions of vulnerability, for much the same reasons that I thought verbal emotional expressions would predict intentionality. Conscious, deliberate expressions of emotion open up the expresser to the responses of their partner, both helpful and harmful, making them more vulnerable to their partner's responses. Interestingly, and in contradiction to the results for intentionality, the results did not support my predictions.

I found two significant interactions, one between the expresser's report of the negativity of their nonverbal expression and their reports of the negativity of their verbal expression on their own reports of intentionality in positive discussions and one between expresser's report of the positivity of their nonverbal and verbal expression on *perceiver's* reports of the expresser's vulnerability. However, none of the simple slopes were significant. Given that this was not a predicted interaction and the lack of significant simple slopes, it is not clear how to interpret this effect. The only consistent piece across the two interactions is that the channels are interacting when the expressions of emotion are contrary to the overall emotional tenor of the discussion, which could suggest that verbal and nonverbal expressions play unique and interactive roles in this situation.

There are a number of possible reasons why I did not find support for my hypothesis that greater verbal emotional expression would significantly predict higher perceptions of vulnerability. Indeed, it is not just that the specific hypothesis was not supported, but also that there was no clear indication within this dataset that emotional expression more broadly predicts perceptions of vulnerability, which is intriguing. First, it could be that there were issues in the way that we measured emotional expression and vulnerability that lead to a lack of supportive results. Because these measures are face-valid and were identical (in the case of measures of emotional expression) or similarly structured (in the case of vulnerability) to measures used elsewhere in this chapter, I am not inclined to believe this is the reason behind the lack of results. However, it could be that the term "vulnerable" has such a negative connotation for participants that they did not want to assign that label to themselves or to their partner. Vulnerability, in other relational and situational contexts, may be seen as a sign of weakness and as providing an opportunity for another person to exploit that weakness. In these satisfied couples, being open

and emotionally expressive may not have left partners feeling susceptible to exploitation or feeling weak, precisely because they knew their partners to be trustworthy and supportive. The consequences of this for interpreting these results are that, although I view vulnerability as a positive attribute for relationships that can promote good forms of dependency and elicit support, our participants may have been interpreting vulnerability as negative for them and for their relationships and may have thus felt that the term did not apply to them. I accept that there may be a disconnect between the operationalizations of the term from study design to execution, which would be interesting to explore in future studies.

It could also be that my hypothesis is inaccurate, which I am also not yet inclined to conclude. This is primarily because it seems most likely that there is a restriction of range for the outcome variable, vulnerability, in this dataset. Given that these participants were highly satisfied members of high-functioning couples who volunteered to be videotaped having emotional discussions with their partner in the laboratory, it seems likely that they feel less vulnerable when sharing emotion with these romantic partners than they might with a friend, acquaintance, or stranger or than members of less satisfied couple might be with their romantic partners. These couples may even feel less vulnerable in these emotional disclosure circumstances than romantic couples who are also satisfied but who are earlier in the process of initiating and developing their relationship might feel. Indeed, in examining the frequency distribution of the vulnerability outcome measures (both that reported by the expresser and by the perceiver), I see that the majority of respondents are reporting vulnerability levels using the bottom values of the scale. In fact, for expresser's reporting their own vulnerability, the modal response (with almost half of all participants reporting this response) is the actual bottom point

of the scale (1). It seems most likely that this floor effect of the vulnerability measure may be contributing to the lack of significant effects in support of my hypotheses for vulnerability.

Sincerity

Based primarily on the examination of nonverbal expression outside of a close relational context (e.g., Ekman & Friesen, 1969), I hypothesized that greater nonverbal expression of emotion would predict greater perceptions that the expresser is sincere and genuine. Because nonverbal emotional expressions are often used as cues to signal that an emotion is truly and genuinely felt and that it is the most reliable indicator of emotion when discordant with verbal emotion (Ekman & Friesen, 1969; ten Brinke & Porter, 2012), it seems reasonable to assume that this function would carry over into well-functioning relational contexts where the verbal and nonverbal expression channels are likely to be concordant in meaning and valence.

I found robust support for my hypothesis that greater nonverbal expression predicts greater perceptions of the expresser's sincerity. Across both positive and negative discussions, I found that expressers who rated themselves to be more nonverbally expressive also rated themselves to be more sincere. I also found that perceivers who rated the expressers as more nonverbally expressive similarly found the expresser to be more sincere. This provides clear evidence that nonverbal expressions are signals that an emotion is sincerely and genuinely felt. Further, in positive discussions, I find that the expressers who rated themselves to be more positive in their nonverbal expression also rated themselves to be more sincere, and the parallel finding emerges for perceivers rating the positivity of the expresser's nonverbal expression.

Again, in positive discussions, there was a significant interaction between the perceiver's ratings of how much the expresser expresses emotion verbally and nonverbally on the expresser's report of how sincerely genuine they were. When I broke this down, I found that

when the perceiver's report of the expresser's verbal expression was low, the expresser rated themselves to be more sincerely genuine when the perceiver also rated the expresser to be more nonverbally expressive. This significant interaction is more directly in support of my hypothesis that nonverbal emotional expression may be driving perceptions of sincerity. In the relative absence of verbal expression, nonverbal expression was required for expressers to be viewed as sincere. This interaction is not found in the parallel analyses examining the perceiver's reports of how sincere the expresser is, but this interaction and the corresponding main effects for perceivers are encouraging.

In addition to this significant interaction in positive discussions, I also found two interactions in the negative discussions that support my hypotheses. First, I found that regardless of how much verbal expression perceivers see in their partners, greater nonverbal expression on the part of expressers was perceived to be more sincere. This indicates that nonverbal expression is a clear cue to sincerity, *with or without verbal expression*. This result provides support for the idea that nonverbal expression is both necessary and sufficient to convey sincerity. Finally, I find that when expressers rated their own nonverbal *negativity* high (in negative discussions), the perceivers rated them as *less* sincere the more they express negativity through the verbal channel. This is an intriguing interaction, and it suggests that once one has expressed a negative emotion nonverbally, further expressing one's negative emotion through the verbal channel may actually detract from how sincere one rated themselves to be. Perhaps once the nonverbal expression is high enough, adding in a verbal declaration makes the emotional expression seem exaggerated and insincere.

This multitude of results tying nonverbal expression to sincerity also fits with recent work by Schrage and colleagues (2020) demonstrating that nonverbal affection on the part of an

expresser who is discussing a time when they felt love for their partner is associated with both a more positive reception and more positive emotion on the part of the perceiver. In that study, the perceivers could have been seeing these expressions of love as sincere and genuine when shared through the nonverbal channel, leading to more functional and responsive behaviors in return.

Whereas these results linking nonverbal expressions and sincerity are clear and compelling, the results from this chapter also show considerable support for greater *verbal* expression predicting greater perceptions of sincerity. Across both positive and negative discussions, I found that expressers who rated themselves to be more *verbally* expressive also rated themselves to be more sincere. I also found that perceivers who rated the expressers as more verbally expressive similarly found the expresser to be more sincere. Further, in direct parallel to nonverbal expression, I found that when perceivers rated the expresser's verbal expression as more positive, they also rated the expresser to be more sincere. These findings were somewhat unexpected but are reasonable given that these are high-functioning couples who expect partners to be responsive (Reis & Clark, 2013; Reis & Gable, 2015) and, likely, honest with them. It seems logical to conclude that partners would use cues from both the verbal and nonverbal channels to understand how sincere and genuine their partner is given that they do not have any reason to assume their partner is deceiving them. In the eyes of both the expresser and the perceiver, it seems that the expresser is rated to be more sincere when expressing more emotion (in both positive and negative discussions), regardless of what channel this emotion is expressed through.

It is possible that any emotional expression, whether verbal or nonverbal, as an expresser describes something good or bad in their life simply carries with it a message that the expresser

is sincerely trying to communicate some information about themselves. This is not a finding that I anticipated, but it is one that warrants follow-up examination.

There is one significant interaction that might elucidate the role of verbal expression in these discussions. In positive discussions, I found that when the perceivers rate their partner's nonverbal positivity to be low, the expressers rated themselves to be more sincere if their *verbal* positivity is high. This finding suggests that perhaps verbal is playing a "filler" role in the absence of nonverbal. It may be that nonverbal is actually preferable as a cue to sincerity (although this remains speculative as there is no clear indication that this preference exists in this data), but when the nonverbal is relatively absent a verbal declaration was able to fill in for signaling sincerity.

Although the bulk of the findings from this chapter fit together and are in line with my theorizing (or help to expand my current theorizing), there are a handful of findings from negative discussions that are a bit puzzling. First, in contradiction to other findings from this chapter, the more a perceiver rated the expresser's nonverbal expression to be negative, in a negative discussion, the *less* sincere the perceiver rated the expresser to be. This indicates that negative nonverbal expression is counter-indicative of sincerity in a negative discussion, which does not fit with my theorizing or other results. Perhaps one plausible explanation for this finding is that perceivers found these displays of negative emotion to be too exaggerated and unwarranted. Given that these topics of discussion were only meant to be moderately emotional, it may be that perceivers felt these expressions of negativity were too extreme and were not justified for the particular topic. However, this is only one finding and is not in line with others from this set of results nor elsewhere, meaning that this is a very speculative explanation.

The other puzzling findings concerned expression of positive emotion in negative discussions. First, the more the perceivers rated the expresser's nonverbal expression as positive, the *less* the *expressers* rated themselves as sincere. Although this crosses expresser and perceiver reports, it also matches a finding that the more expressers rate their verbal expression to be positive, the *less* sincere they perceive themselves to be. Taken together, these findings suggest that greater expression of positive emotion, through both verbal and nonverbal channels, is perceived as less sincere in a negative discussion. This is also parallel to an interaction illustrating that when expresser's rate their verbal positivity as low, the *more* nonverbal positivity they express, the *less* sincere they rate themselves to be. This interaction seems to suggest that nonverbal positivity may be driving this effect, which actually fits nicely with the overall results indicating that nonverbal may hold a swaying power over how much sincerity is perceived. It may be that nonverbal expression of the emotion that is opposite in valence to the discussion topic (and therefore likely less appropriate to express in this context) is seen as the most reliable indicator of sincerity. Here that would mean that this opposite valence nonverbal expression makes the expresser seem less sincere because it indicates that they do not genuinely feel as negative as they are purporting to feel during this discussion of a negative topic. If the nonverbal expression of positive emotion is seen as a signal of the genuine emotion felt, perhaps it makes this conversation of a negative topic seem generally less sincere.

Thinking now about the finding that the more positive the expresser rated their verbal expression to be, the *less* sincerely genuine they rated themselves to be, this actually fits somewhat with the potential explanation for the above interaction (but with consideration for the different role verbal might play): Perhaps if you are sharing positive emotion through such a direct mechanism (verbal expression) in a negative discussion, you are seen as less sincere

because you appear to be trying to cover up some of your negative emotions by consciously choosing to express positivity verbally.

The overall pattern of findings for sincerity indicated strong evidence that greater nonverbal expression predicted greater perceptions of an expresser's sincerity. However, contrary to our hypotheses, there is also some evidence that *verbal* emotional expressions are linked to sincerity. This sits in contrast to what we might expect from literature on deception (e.g., Ekman & Friesen, 1969; ten Brinke & Porter, 2012), which highlights that nonverbal cues, particularly those from the body, are the indicators of true emotion and can "leak out" to influence emotion perception in ways that differ from verbal cues. This work demonstrates that in highly satisfied couples discussing non-threatening topics, nonverbal cues may not be the only (or always the most reliable) indicators of a genuine emotion. In circumstances where one does not expect a close relationship partner to be deceiving one, close scrutiny of these nonverbal expressions may not be necessary. Indeed, any and all cues to emotion may help to demonstrate that a trustworthy, reliable close relationship partner is sincere and showing their true emotional nature.

III. Limitations

One limitation of all of these analyses is that we are not able to fully explore the causality of these relationships, on two different levels. This study is correlational in that partners express the amount of verbal and nonverbal emotion that they chose to express, rather than our manipulating their expression to systematically and causally examine the links between that expression and these functional interpretations. Further, it is difficult to know if expressers and perceivers are rating the expressers as more intentional *because* that expresser is expressing more emotion verbally or because of some other reason. Although there are clear associative links

between the concepts highlighted in the above summary, it is not clear if expressers and perceivers are following the same logical links we are. Is a perceiver who rates their partner to be highly verbally expressive thinking that this means their partner is highly intentional in their emotional expression? Future research is needed to explore this potential cognitive link.

Chapter 3- Relational antecedents and consequences of verbal and nonverbal emotional expressions in romantic relationships

Introduction

Given that close relationships are the context in which most emotions are expressed (Rimé, 2009; Von Culin et al., 2017), it is important to better understand what might lead to choosing to express emotion within the contexts of these relationships. We express emotion to close relationship partners because our emotions signal needs (Clark et al., 2001) and because most of us are confident that our close relationship partners will be responsive to those needs once expressed (Reis & Clark, 2013; Reis & Gable, 2015). Many of us are also motivated to express emotion to relationship partners because this type of emotional disclosure helps us to build intimacy with our close relationship partner (Reis & Shaver, 1988) and often leads to creating or strengthening close relationships (Algoe, 2012; Graham et al., 2008). As these few examples illustrate, there are many impactful potential reasons for expressing emotion to a close relationship partner that are directly related to support seeking and provision.

Given the clear importance of expressing emotion, then, why do we not see uniformly high expression of emotion within close relationships? This is relevant not just when it comes to considering differences in emotional expression holistically, but also when it comes to thinking about differences between the verbal and nonverbal channels. As we have seen from some of the evidence presented thus far in this dissertation, there is some variability in the extent to which relationship partners express emotion through each channel.

Through the research described in this chapter, I began to explore the open question of what factors within a relationship might separately predict verbal and nonverbal emotional expression. These different factors could lead to differences in how much emotion is expressed through each channel.

Although there are many possible antecedents and consequences of emotional expression that might predict variation in verbal and nonverbal expression, I will focus here on three potential relational factors: perceived partner responsiveness and care, trust in the partner, and commitment to the relationship. It is reasonable to think that emotional expressions, as mechanisms of creating and revealing vulnerabilities, might arise within relationships in which partners are particularly high in caring for and trusting one another as well as in relationships in which members are committed to remaining together long-term. It also is reasonable to hypothesize that there is bidirectionality in the associations between perceived partner responsiveness, trust in the partner, relationship commitment, and emotional expression. That is, I suspect that these features of the relationship will not only lead to higher emotional expression within the relationship but also that emotional expression will feed back to strengthen responsiveness, commitment, and trust in these relationships.

In this chapter, I test models examining each of these variables as a potential antecedent of emotional expression and investigate how this might differentially predict emotion through each channel. However, I do so with the caveat that I believe the predicted relationships are likely bidirectional, and that the models could be meaningfully flipped.

I. Perceived Partner Responsiveness and Care

Beginning with the first potential antecedent, I am here using the reported communal strength of each participant's relationship (Mills et al., 2004) as a measure of partner care, responsiveness, and regard. Communal strength measures the extent to which we are willing to respond to our partner's needs and desires in a communal, non-contingent manner (Clark & Mills, 2012). Communal strength can serve as an indicator of closeness between partners with links to positive relationship outcomes, including satisfaction (Mills et al., 2004). For example,

greater closeness (as measured by communal strength) towards a partner is associated with a greater desire to be responsive to that partner when the partner is in conflict with a third-party (Lemay et al., 2020). As another example, Kogan and colleagues (2010) found that individuals higher in communal strength experienced more positive emotions when providing a sacrifice for their partner, felt that their partners were more appreciative of their sacrifice, and had higher relationship satisfaction on days when they provided the sacrifice compared to those lower in communal strength.

In addition to the links between higher communal strength and more positive relational and personal outcomes, there is also some extant evidence that greater communal strength towards one's partner is tied to greater *willingness* to express emotion (Clark & Finkel, 2005; Von Culin et al., 2017). This is unsurprising, as we know from some literature that emotional expression can be linked to longer relationship length (Aune et al., 1994) and to greater liking (Collins & Miller, 1994).

As alluded to above, there is already some evidence to support this link between desire to express emotion and perceived partner care, including work by Clark and Finkel (2005) illustrating that individuals in relationships that are likely to be higher in communal strength (and therefore in perceived partner care) say they are more willing to express emotion to their partners. Further, the authors find that individuals who are higher in general communal orientation are more willing to express emotions conveying greater vulnerability when they are in closer relationships that are likely to be high in perceived partner regard, as compared to those in more exchange-based relationships or those lower in general communal orientation. As compelling as these results are for understanding the relationship between communal strength and emotion in relationships, they are based on self-reported *willingness* to express rather than

on reports of actual expression or behavioral measures of actual emotional expression, both of which would provide stronger arguments for the stability and implications of these findings. It is important to move beyond reports of willingness to express to examine actual expression so as to better understand how this willingness might translate (or fail to translate) to actual behavior within the relationship.

Beyond just extending this work to examine actual emotional expression in close relationships, it is also important to incorporate each partner's *perceptions* of their partner's communal strength, as Von Culin and colleagues (2017) have done. Whereas the actual extent to which partners are willing to be responsive in a non-contingent manner is certainly central for the relationship and likely manifests in observable behaviors that partners can pick up on, work on accuracy and projection effects within relationships (e.g., Lemay & Clark, 2008 for communal responsiveness) suggests that one individual's (the actor's) *perception* of their partner's (the partner's) responsiveness is influenced both by the partner's actual reported responsiveness as well as the actor's projection of their own responsiveness onto the partner. Thus, it is important to separately examine the actor's perception of their partner's responsiveness as its own potential predictor of emotional expression, as this perception likely represents a cognitive process that is a key mediator between the actor's responsiveness and their own behavior. In essence, an expresser's responsiveness towards a perceiver might predict the expresser's own behavior, here emotional expression, but a key component in this process might be whether or not the expresser thinks their partner will be responsive. If the expresser does not believe the perceiver will be responsive, their emotional expression might not serve any function and it would be more beneficial to not express.

Von Culin and her colleagues (2017) examined just this set of questions in a dyadic study conducted with romantic couples. They examined whether or not an actor's communal strength towards their partner predicted their willingness to express positive and negative emotion and whether this was mediated by the actor's perception of their partner's communal strength. Their model also allowed them to assess whether the partner's independent self-report of their own communal strength towards the actor predicts the actor's emotional expression. Key to the distinctions between this work by Von Culin and colleagues and the work I present in this chapter is that Von Culin and colleagues only assessed willingness to express rather than actual reports of emotional expression, in parallel to Clark and Finkel (2005). Further, this work is focused on holistic emotional expression that does not differentiate between the verbal and nonverbal channels of expression.

In this work, Von Culin and colleagues (2017) find their expected effects such that actor's self-reported communal strength positively and significantly predicted the actor's reports of their own willingness to express emotion. So too did the partner's independent reports of their own communal strength predict the actor's willingness to express emotion. In other words, individuals report being willing to express more positive and negative emotion to their partner both as a function of feeling more communally towards that partner and, independently, as a function of their partner feeling more communally towards them.

Clearly, actors are picking up somehow on their partner's communal strength, as exemplified by the positive predictive power that the partner's independent reports of communal strength have for actor's willingness to express. This is also supported by Von Culin and her colleagues' finding that the actor's perception of their partner's communal strength also predicts the actor's willingness to express emotion. Further, Von Culin and colleagues found that, as they

had predicted, the actor's perception of their partner's communal strength significantly mediates the relationship between both the actor's communal strength and the actor's willingness to express emotion (actor-actor indirect effect) as well as the relationship between the partner's communal strength and the actor's willingness to express emotion (partner-actor indirect effect) using a mediated APIM model. These results indicate that, as alluded to above, the actor's perception of their partner's responsiveness is central for how much emotion the actor is willing to express to their partner. As we might anticipate, engaging in behaviors that make one vulnerable, such as emotional expression, hinges not only on actual responsiveness of both partners, but also on the extent to which the expressing partner anticipates their partner to be responsive.

However, as indicated above, the contributions of this work do not include an examination of actual emotion expression through the channels of expression, verbal and nonverbal, to see how these might differentially factor in. However, some scholars recently have approached looking at how perceived responsiveness might relate to actual emotional expression, including a set of two studies conducted by Ruan and colleagues (2020). In the first study, the authors examined reports of the partner's responsiveness (as perceived by the actor) as well as reports of how much emotion the actor expressed to that partner each day for 14 days in a daily diary. They found that, as predicted, the more actors reported their partner to be responsive on a given day, the more emotion (both positive and negative) the actor reported expressing to their partner on that day. This was especially true of anxiety expression on days when the actor was feeling particularly stressed, underscoring the functional importance of this process for meeting needs. In a second study, experimenters manipulated how responsive actors felt their romantic partners to be and then measured how much anxiety the actors expressed (via email) to their

partners prior to completing a stressful task. In parallel to the findings from the first study, actors expressed greater anxiety to a partner they perceived to be more responsive and also exhibited more support-seeking behaviors, again underscoring the functional significance of perceiving one's partner as responsive for meeting individual and relational needs. While these studies highlight the link between perceptions of responsiveness and greater *actual* emotional expression, it is limited to observations of one emotion, anxiety, within the specific context of seeking support prior to a stressful task. Further, they do not distinguish between the different ways that emotion may be expressed, verbal and nonverbal.

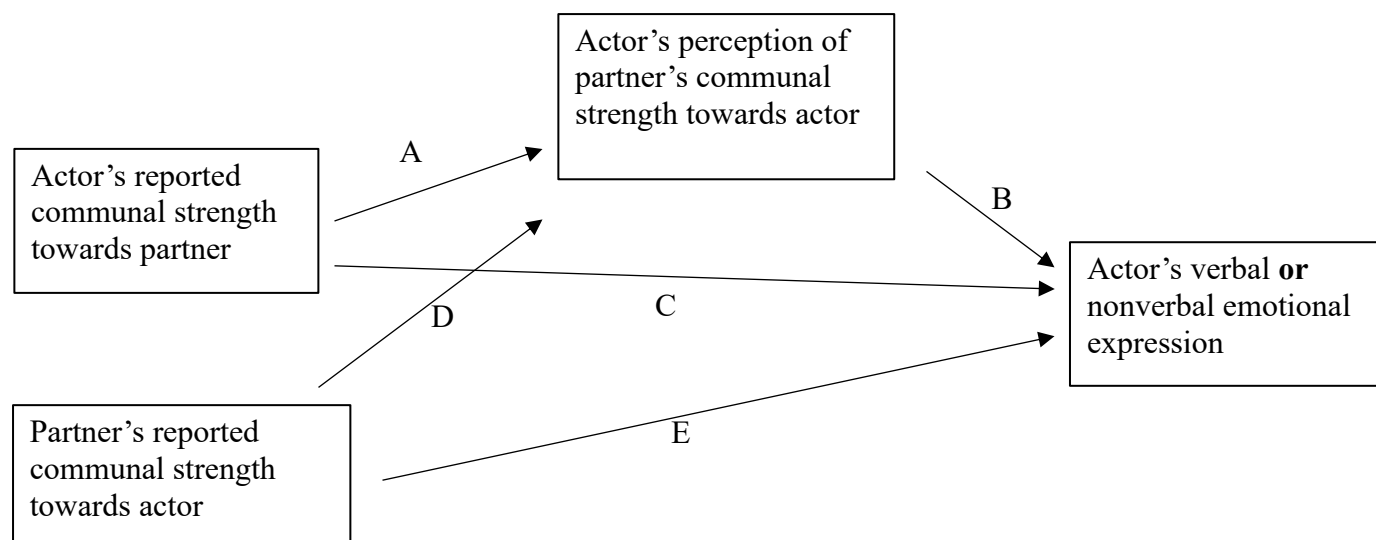
Also examining expression and perceived regard in one specific context, Thomson and colleagues (2018) found that lower perceptions of partner regard within a conflict scenario (here measured with a measure of perceived partner regard specific to the topic of conflict discussion in Study 1 and with a broader measure of daily perceived partner regard in Study 2) predicted greater emotional *suppression*, both as rated by coders (Study 1) and as self-reported (Study 2) during a conflict discussion. While these results concern suppression rather than expression, it is plausible to think that the inverse of these results could also be true, such that higher partner regard might lead to greater emotional expression. However, it is important to directly examine whether this result would flip in that way, and whether any of the findings of these studies can be applied more broadly to naturalistic situational contexts that are not directly concerned with conflict discussion or stressful situations.

The work presented in this chapter builds on this prior work to examine how perceived partner regard and responsiveness might mediate a link between an expresser's regard for their partner and that expresser's verbal and nonverbal emotional expression. See Figure 13 for my

adaptation of the theoretical model used by Von Culin and colleagues (2017), which I have modified to fit with the relevant question of this chapter.

Figure 13

Theoretical Model of Expression and Responsiveness



Note. This model outlines the predicted relationships between actor's regard for the partner (measured here with communal strength) and partner's regard for the actor predicting actor's verbal and nonverbal emotional expression. This model allows us to further assess whether these links are mediated by the actor's perception of the partner's regard.

II. Trust in the Partner

A second potential antecedent (or, theoretically, a consequence) of emotional expression in relationships might be the extent to which each partner trusts the other. One might note that communal strength, and responsiveness more broadly, is likely to be highly related to trust in one's partner. In fact, if one perceives their partner to feel communally towards them, one might trust that partner more. Indeed, we do find that trust and communal strength are positively correlated in this dataset, as is true for many of the measures of relational health. However, I treat these variables distinctly when examining their relationships with emotional expression for both conceptual and logistical reasons.

First, although these are likely highly overlapping constructs, there are distinct features of each that warrant retaining their separation. Trust, as will be outlined below, involves evaluating a partner's behaviors in diagnostic situations and factoring their behaviors and responses into predictions of future behaviors (Simpson, 2007). Perceived partner communal strength, while likely also informed by a partner's behaviors in previous diagnostic situations, does not necessarily have the same predictive component. One might perceive that one's partner cares for one's welfare and is, theoretically, responsive, but trusting that the partner will reliably and consistently follow through on this care is an additive layer not necessarily captured in perceived partner communal strength. While there may also be links between expresser's communal strength and their trust in the partner, it seems natural that this would be the result of a process whereby one perceives that their partner is responding appropriately in a diagnostic or strain situation and anticipates that this will continue to occur in the future, thereby likely causing the expresser to desire to be more responsive in turn to maintain that trust in both directions. From a logistical standpoint, I am also interested in different models of each variable, in that I am interested in a model that incorporates both the expresser's communal strength and their perception of their partner's communal strength for examining responsiveness (in parallel to prior research by Von Culin et al., 2017). However, I am interested in a simpler model for trust that solely evaluates trust of the expresser and of the perceiver without the perception component.

In this study, I am using a measure of trust within relationships that is specific to examining the extent to which the responding partner trusts the other partner (Rempel et al., 1985). As outlined by Simpson (2007) and others, trust in one's interdependent relationship partner is an inherently cooperative relational feature that involves both revealing one's needs

and vulnerabilities as well as maintaining a set of predictions and beliefs about how one's partner will react and behave over time. Higher trust is characterized by greater stability in one's certainty about the partner's future relationship-affirming behaviors, thoughts, and motivations. Simpson (2007) describes a model of trust in relationships that involves the relevant dispositional attributes of each individual, which could include, for example, attachment style and prior history, feeding into a series of reactions and perceptions once partners enter a trust-testing scenario. Depending on how each partner responds (and perceives their partner's response) to these situations, trust will continue to be built or maintained in tandem with feelings of security and safety in the relationship, which will then have downstream consequences for future trust-testing scenarios.

As can be presumed from this model, there is evidence within the relationship literature that high trust is linked to a variety of positive relational outcomes. For example, Hassebrauck & Fehr (2002) developed a multi-dimensional model of relationship quality that includes dimensions of intimacy, agreement, independence, and sexuality. In developing this model, the authors found that individuals in romantic relationships characterized by more of each of these dimensions of relationship quality reported trusting their partners more. This signals that relationships with higher trust between the partners are also higher quality relationships. Beyond these global evaluations of the quality of the relationship, higher trust in one's partner is also linked to less change over time in perceptions of relationship quality (Campbell et al., 2010). Campbell and colleagues found that individuals in romantic relationships who trust their partner more exhibit less variability in relationship quality across daily diary reports, demonstrated lower reactivity to everyday negative events, and exhibited less destructive behavior during conflict discussions with their partner. Based on these findings from Campbell and colleagues (2010),

trust may be linked to greater stability and certainty in the relationship, which likely has downstream consequences for behavior in a variety of contexts beyond conflict discussions.

Turning to look at how trust might relate to emotional expression in close relationships, it seems likely that the higher quality and greater stability of high trust relationships might contribute to greater expression of vulnerable emotions. Similarly, it might be that greater emotional expression in relationships builds trust through the same processes of growing intimacy in the relationship. Curiously, there has been little emphasis on examining this specific link in the relationship literature, but there has been some evaluation of the associations between emotional expression and relational trust in the clinical literature. For example, McKinnon and Greenberg (2017) find that greater emotional vulnerability expressed by partners who had been emotionally hurt by their partner predicted positive improvements in trust when the offending partner also responded supportively. This provides compelling evidence that expressing vulnerable, revealing emotions might be a mechanism to build trust within relationships. Also in the clinical literature, Cordova and colleagues (2005) examined the interrelationships between emotional skills within a romantic relationship, which they define as the ability to identify and communicate emotion, and marital satisfaction, along with intimate safety (a close parallel to trust in one's partner). The authors define the process of developing intimate safety as parallel to the process of developing interpersonal trust in the relationship because it includes revealing vulnerabilities and growing more certain of the partner's validating responses to those vulnerabilities. Cordova and his colleagues find that greater emotional skill was significantly related to marital satisfaction and that this link was fully mediated (for both identification skills and communication skills) by intimate safety, the parallel measure to trust. These results also

provide some interesting evidence that greater emotional abilities might relate to positive relational outcomes with interpersonal trust acting as a mechanism.

Despite this intriguing evidence from the clinical literature, neither of these studies capture how emotional expressivity may be associated with greater trust in the relationship in healthy, high-functioning relationships when partners are discussing everyday emotional topics outside of a therapeutic context. In fact, in the Cordova and colleagues (2005) study, their examination of emotional skill leaves out the question of whether or not greater emotional expression may be linked to higher trust, or intimate safety. Further, neither of these studies touches on how the way that we express emotion, through verbal and nonverbal channels, might relate to our trust in the partner. The research presented in this chapter begins to fill in these important gaps.

III. Relationship Commitment

A third potential antecedent of verbal and nonverbal emotional expression in close relationships (or a potential consequence) is each partner's commitment to the relationship. Each partner's commitment to the relationship is here conceptualized through the constructs of the Investment Model (Rusbult et al., 1998), which posits that commitment arises from a combination of the individual's satisfaction in the relationship (the greater their satisfaction is, the higher their commitment is), their assessment of alternative options to the relationship (the fewer or worse the alternatives, the higher their commitment is), and the degree of their investment in the relationship (the greater their investment is, the higher their commitment is). Further, social and personal prescriptive expectations can impact commitment, particularly norms against divorce or breaking up. Each of these constructs creates differential levels of dependence within the relationship, which then informs how committed partners are to the future

persistence of that relationship and the extent to which those partners engage in relationship building and maintenance practices. Clearly, relationship commitment plays a central role in defining the strength and future of a close relationship, and it is an important relational variable to consider.

As might be anticipated given their common emphasis on interdependence within the relationship, relational commitment and my prior antecedent, trust in the partner, are conceptually and empirically interrelated (Wieselquist et al., 1999). Employing evidence from a series of two longitudinal studies of romantic relationships, Wieselquist and colleagues (1999) assert that trust in one's partner can act as a metric for the trusting individual's perception of the partner's commitment. In other words, one partner may trust their partner more if they perceive that partner to be more committed (the Commitment-Trust Hypothesis). The authors find evidence that trust creates opportunities for greater dependence in the relationship, which may then act to augment commitment. In these studies, the authors find that commitment and trust are both associated with pro-relationship behaviors, including accommodating behavior and being willing to sacrifice for the partner. Thus, there may be feedback loops operating here between trust in the partner, pro-relationship behavior, and commitment to the future of the relationship. It may be that trust in the partner creates the opportunity for greater interdependence through pro-relationship behaviors, which then leads to higher commitment in the relationship, although there is likely multi-directionality at each stage.

In addition to this support for the links between trust and relationship commitment, Hassebrauck & Fehr (2002) found parallel results in their work on relationship quality that the primary dimensions of high-quality relationships are significantly and positively related to relationship commitment.

However, it is also clear from this work that trust and relationship commitment are unique constructs that likely contribute to building relationships in differential ways, as Wieselquist and colleagues (1999) note. Despite their interrelationship, it is still warranted and interesting to examine these constructs independently.

Although it is obvious that commitment is a central feature of healthy relationships and one that can help to explain variance in how relationships function and grow, there has been relatively little examination of how commitment relates to emotional expression within close relationships. In the communications literature, Allen and colleagues (2012) examined how the Investment Model of commitment might relate to the experience and expression of anger and guilt within young adult friendships. As might be anticipated, the authors find that more committed friends enact more functional and constructive approaches when expressing their anger, including trying to make amends with their friend, as compared to less committed friends. Interestingly, they did not find strong links between commitment and expression of guilt. While this study is intriguing, it is looking only at a set of specific emotions that have direct relational consequences for the friendship. For example, Lemay and colleagues (2012) have documented that expressing anger towards a relational partner has a distinct social function compared to, say, expressing hurt in the same situation, and that this anger has negative consequences for the relationship, including the original perpetrator behaving more destructively and perceiving the expresser as less committed to the relationship. Further, Allen and colleagues (2012) examined these emotions within a very narrow type of relationship: friendships in young adulthood, which may be characterized by unique kinds of alternatives and levels of commitment. Additionally, these studies do not examine the roles of verbal and nonverbal emotional expression and how these channels might differentially relate to the core features of commitment.

In another example of the limited work being conducted to examine links between emotion and relationship commitment, Sels and colleagues (2020) investigated whether commitment to the relationship predicts higher degrees of emotional interdependence. In this study, emotional interdependence includes the extent to which partners experience similar emotions in a given situation and how much their emotions fluctuate in synchronization. While this study only examined emotional experience, it is still intriguing that the authors did not find any significant link between emotional interdependence and commitment to the relationship, suggesting that intra-couple linkages in emotional experience are unrelated to how committed partners are to their relationship. However, this study does not examine emotional expression, particularly differences between verbal and nonverbal expressions. While these results are interesting, they reinforce that there is a dearth of research that has been conducted investigating how emotional expression links to commitment to the relationship.

IV. Predictions

First, I predicted that individuals who were higher in communal strength towards their partner would express more emotion verbally as compared to those lower in communal strength. This is based on my estimation that verbal emotional expressions signal a willingness to be vulnerable with one's partner by revealing emotions in a direct, intentional, and undeniable way. Individuals who feel greater communal strength towards their partner may feel a sense of security in their relationship that promotes the sharing of emotion verbally. I further predicted that this link between actor's communal strength and actor's verbal emotional expressions would be mediated by the actor's perception of the partner's communal strength. That is, similar to the findings from Von Culin and colleagues (2017), perceiving that one's partner cares about one (measured here with perceived partner communal strength) may be an important mechanism by

which the expresser's care for their partner links to their own verbal emotional expression. However, I made competing predictions about nonverbal expression, as it may be that the genuine and sincere emotion conveyed by nonverbal expressions still requires some degree of comfort and vulnerability with one's partner to express, but it also may be that nonverbal expressions are perceived to be less consciously controlled or intentional and therefore less indicative of vulnerability. One could predict both that individuals higher in communal strength express more emotion nonverbally compared to individuals lower in communal strength or that individuals higher in communal strength do not differ in nonverbal expression from those lower in communal strength.

Similarly, I predicted that each *partner's* independent ratings of their own communal strength would positively and significantly predict actor's verbal emotional expression, with no predictions about partner's communal strength predicting actor's nonverbal emotional expression. I further expected that this relationship between partner's communal strength and actor's verbal emotional expression would be mediated by the actor's perception of the partner's communal strength.

Second, I predicted that greater trust in one's partner would predict greater verbal emotional expression, for similar reasons to those outlined above for communal strength. Because verbal emotional expressions are undeniable demonstrations of emotion that suggest to partners that a response is desired, it is likely important that an expresser feels that they can trust their partner before being willing to disclose emotion verbally. As with communal strength, I also predicted that the *partner's* trust in the expresser would predict the expresser's verbal emotional expression because it may be crucial that an expresser feels that a perceiver trusts

them in order to be vulnerable and to share their emotions verbally. As before, I did not make specific predictions about nonverbal expression.

Third, I predicted that relationship commitment would positively predict verbal emotional expression, for the same reasons outlined above for trust in the partner. It may be necessary that you are more committed to your partner, and thus more forward-thinking about your relationship, to be willing to express emotion in this undeniable and vulnerable way. Additionally, it may be important to the process of expressing emotion verbally that you believe your partner to be committed, so it may also be that the *partner's* relationship commitment predicts the expresser's verbal expression. As before, I did not make specific predictions about nonverbal expression.

Methods

The data for this chapter were extracted from the same dyadic dataset utilized in Chapter 2, so all procedures and coding processes were identical. The measures specific to the analyses for this chapter are described below in Table 9.

To capture how much emotion was expressed verbally and nonverbally, I employed the measure of the amount of emotion expressed as the outcome variable for this set of analyses.

Table 9*Measures*

Questionnaire	Items
Communal strength (Mills et al., 2004)	Composite measures were created by averaging across the items in each scale to create a measure of 1) communal strength towards one's partner and 2) perception of one's partner's communal strength towards oneself for each participant.
Trust in the partner (Rempel et al., 1985; modified)	Modified to assess trust in the partner specifically. A composite measure was created by averaging across the items.
Relationship commitment (elaborated version of Rusbult et al., 1998)	A composite measure was created by averaging across the items.
Positive Discussion Primary Expresser (PE) Questionnaire	<ol style="list-style-type: none"> <li>1. How much were you expressing your emotions verbally (using words, e.g. I was really happy when I got that good news or that was such a fun trip)? (Verbal amount) <li>2. How much were you expressing your emotions using body language (e.g., facial expressions such as smiling or frowning, changing your tone of

	voice, speaking more quickly or slowly, or using hand or body movements)? (Nonverbal amount)
Negative Discussion Primary Expresser (PE) Questionnaire	Identical to Primary Expresser (PE)- Positive
Positive Discussion Primary Perceiver (PP) Questionnaire	<ol style="list-style-type: none"> 1. How much was he (or she) expressing his (or her) emotions verbally (using words, e.g. I was really happy when I got that good news or that was such a fun trip)? 2. How much was he (or she) expressing his (or her) emotions using body language (e.g., facial expressions such as smiling or frowning, changing his (or her) tone of voice, speaking more quickly or slowly, or using hand or body movements)?
Negative Discussion Primary Perceiver (PP) Questionnaire	Identical to Primary Perceiver (PP)- Positive
LIWC (Pennebaker et al., 2015)	<ol style="list-style-type: none"> 1. Affect 2. Positive Emotion (for positive discussions) 3. Negative Emotion (for negative discussions)

Nonverbal Coding Scheme

How much was the participant expressing his (or her) emotions using **body language** (e.g. facial expressions such as smiling or frowning, or using hand or body movements)?

Coding ICC: 0.89

Verbal Coding Scheme

How much was the participant expressing his (or her) emotions verbally (using words, e.g. I was really *happy* when I got that good news or that was such a *fun* trip)?

Coding ICC: 0.88

Results

I. Descriptive Measures

Descriptive analyses indicated that, as might be anticipated, communal strength (which was measured on a 10-point scale, with higher values indicating more communal strength) within dyads in this sample was relatively high, see Table 10 for means and standard deviations.

Similarly, trust in the partner (which was measured on a scale from -3 to + 3, with higher values indicating greater trust) was moderately high within these dyads, see Table 10 for the means and standard deviations.

Finally, relationship commitment (which was measured on a scale from 0 to 8, with higher values indicating more commitment) was also fairly high within this sample, see Table 10 for the means and standard deviations.

Table 10***Descriptive Statistics for Potential Antecedents***

	Mean	Standard Deviation	α
Communal Strength: Actor to Partner	8.46	1.06	.78
Communal Strength: Perception of Partner's	7.75	1.50	.84
Trust in the partner	1.87	0.92	.91
Relationship Commitment	6.39	1.40	.92

Additionally, as a point of interest, I assessed the link between the actor's communal strength and their partner's communal strength. As might be anticipated given the interdependent, intimate nature of these relationships, I find that actor's communal strength is significantly correlated with partner's communal strength, $r(164) = .31, p < .001$. In evaluating the same link between actor's trust and partner's trust, I find again that they are significantly (albeit only moderately) correlated, $r(164) = .41, p < .001$. The same pattern emerges for actor's relationship commitment and partner's relationship commitment, although with a stronger correlation, $r(164) = .58, p < .001$.

II. Communal Strength and Perceived Partner Communal Strength

A. Positive Discussions- Verbal Emotional Expression

First, I conducted an APIM model to assess any direct effects of *actor's* communal strength and partner's communal strength predicting verbal emotional expression as self-reported by the actor. Contrary to predictions, this yielded no significant associations. Because this link was not significant, I did not further explore the mediational model, with the exception of testing the path from actor's communal strength to actor's perception of partner's communal strength.

As will become clear in the following sections, I discovered that this link showed up consistently in models assessing links between communal strength and both verbal and nonverbal emotional expression (reported from either actors or their partners) across both positive and negative discussions. I chose to examine the link between actor's communal strength and actor's perception of partner's communal strength within this model anyway to see if there is support for projection that parallels the support elsewhere. As anticipated, I found that there is significant projection in that actor's communal strength towards the partner predicted the actor's perception of the partner's communal strength, $b = 0.80, p < .001$.

Next, I conducted the same APIM model with *actor's* communal strength used to predict *perceiver's* reports of the actor's verbal emotional expression. Again, contrary to predictions, there were no significant direct effects. Given the lack of significant direct effects, the mediated model was not further explored, as will be the case for any additional models where an initial link was not supported between communal strength and the measure of emotional expression.

Moving from self-report measures to objectively coded measures, I next conducted an APIM model to examine how actor and partner communal strength predicted verbal emotional expression as assessed using the LIWC item "affect." In line with the self-reported data, I find here only a marginal direct effect (albeit negative and contrary to what we would predict) that communal strength of the actor marginally, and negatively, predicted the actor's verbal emotional expression, $b = -0.31, p = .054$. As a more fine-grained examination of the LIWC coding of verbal affect, I also conducted an APIM model to assess how actor and partner communal strength predicted the item "positive emotion." There was again no significant association between actor or partner communal strength and verbal expression. However, the

link between actor's communal strength and the LIWC item "positive emotion" was marginally (and, again, negatively) significant, $b = -0.28$, $p = .066$.

Finally, I conducted an APIM model to evaluate how actor and communal strength might predict verbal emotional expression as coded by our team of objective verbal coders. In line with the above, there were no significant direct effects.

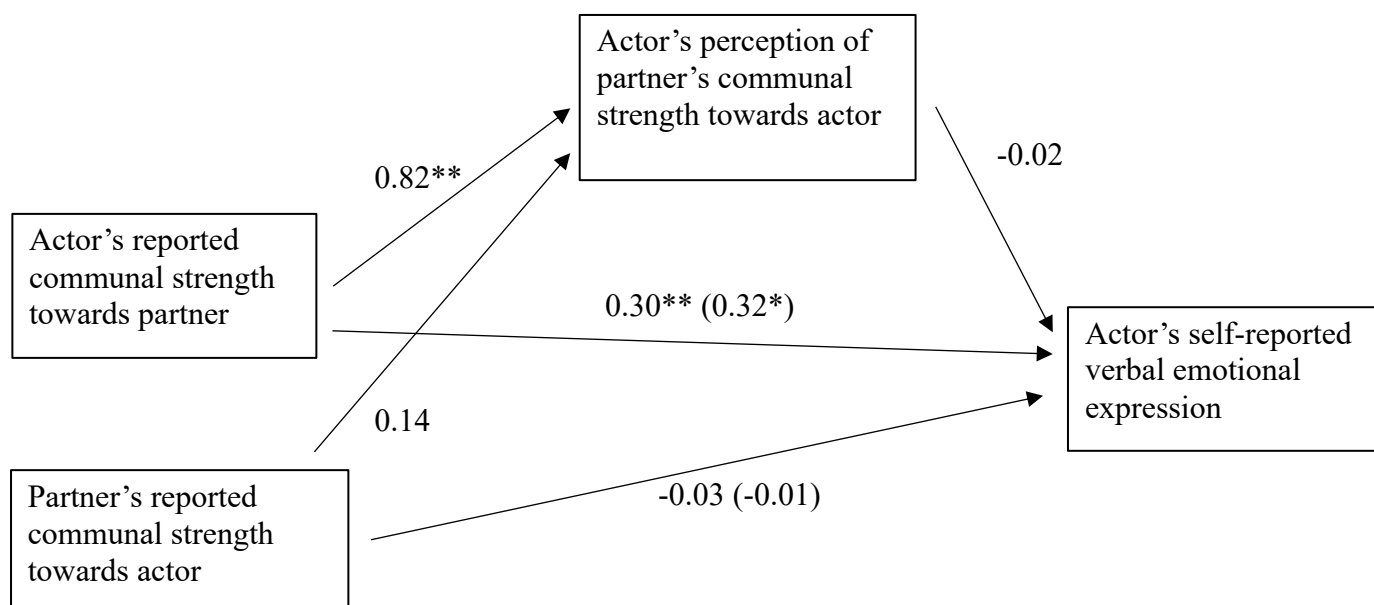
B. Negative Discussions- Verbal Emotional Expression

In parallel to the analyses conducted for positive discussions, I conducted an APIM model testing whether actor's communal strength and partner's communal strength predicted actor's self-reported verbal emotional expression. In contrast to the results for positive discussions, there was one significant direct effect, consistent with my hypothesis, that illustrates that actor's communal strength predicted their self-reported verbal emotional expression in a negative discussion, $b = .30$, $p = .004$ (Path C), see Figure 14. There were no significant direct partner effects of partner's reported communal strength predicting actor's self-reported verbal emotional expression, $b = -0.03$, $p = .77$.

Given the significant direct effect, I then tested the indirect effects between the predictor variables and the mediator (the actor's perception of the partner's communal strength towards the actor). Here I found that the actor's communal strength significantly and positively predicted the actor's perception of the partner's communal strength (Path A, $b = .82$, $p < .001$), but, intriguingly, the partner's independently reported communal strength towards the actor did not predict the actor's perception of the partner's communal strength, $b = .14$, $p = .13$ (Path D). Essentially, I found that there is projection but no accuracy in the actor's perception of the partner's communal strength towards the actor.

However, when examining the links between the actor's perception of the partner's communal strength towards the actor and the actor's verbal emotional expression (Path B), I found that there was no significant relationship, $b = -0.02$, $p = .87$.

As a final step to test the full mediation model, I utilized a web-based tool for the Monte Carlo method (Selig & Preacher, 2008). As anticipated due to a lack of significant results at several steps of the model, actor's perception of partner's communal strength towards the actor did not mediate the relationship between the actor's communal strength and the actor's self-reported verbal expression (actor-actor indirect effect, $b = -0.01$, $se = 0.075$, 95% CI -0.16 to 0.14). Additionally, the actor's perception of the partner's communal strength towards the actor did not significantly mediate the link between the partner's communal strength and the actor's ratings of their own verbal expression (partner-actor indirect effect, $b = -0.002$, $se = 0.013$, 95% CI -0.04 to 0.03).

Figure 14*Mediational Model of Communal Strength Predicting Verbal Expression*

Note. Path models of the mediational model tested to examine how the associations between actor and partner communal strength and actor's self-reported verbal expression could be mediated by the actor's perception of the partner's communal strength.

I then conducted the same APIM model to evaluate how actor's communal strength and partner's communal strength predicted verbal emotional expression as reported by the *perceiver*. Interestingly, there were no significant direct effects.

Turning again to the coded measures of emotional expression, the same APIM model was tested to see if actor and partner communal strength towards one another predicts verbal expression based on the LIWC item "affect." Again, there were no significant direct effects. To assess verbal emotional expression in a more fine-grained manner, I also conducted an APIM model to see if actor and partner communal strength predict verbal expression through the LIWC item "Negative Emotion." There were no significant direct effects.

Finally, when looking at the coded measures from our verbal coding team, an APIM model examining how actor's communal strength and partner's communal strength predicted

verbal expression only produced one marginally significant direct effect, in the predicted direction, of the actor's communal strength marginally predicting the actor's verbal expression, $b = 0.16, p = .054$.

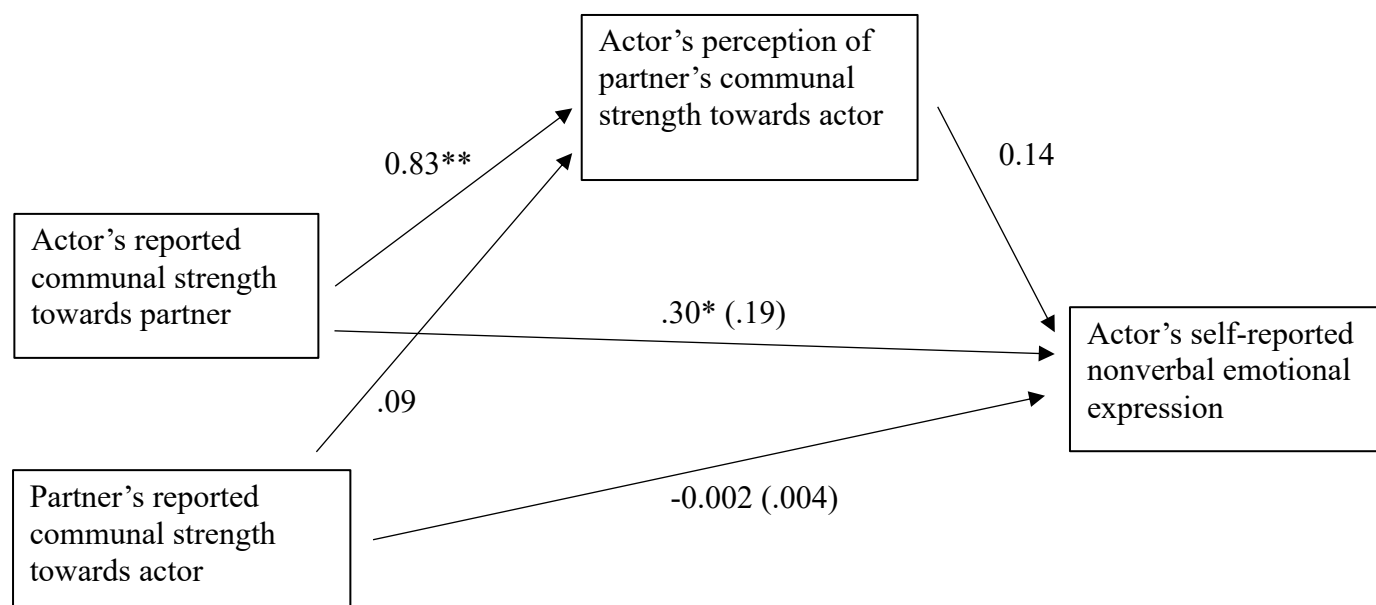
C. Positive Discussions- Nonverbal Expression

For nonverbal emotional expression, the same sets of APIM models were run as those using verbal emotional expression as an outcome variable. First, I tested a model to see if actor's communal strength and partner's communal strength predicted actor's self-reported nonverbal emotional expression in positive discussions. Here there was one significant direct effect, consistent with my hypothesis, that the actor's communal strength predicted the actor's self-reported nonverbal emotional expression, $b = .30, p = .02$, see Figure 15. However, the partner's independently reported communal strength did not significantly predict the actor's self-reported nonverbal emotional expression, $b = -0.002, p = .99$.

Given the significant direct effect, I then examined the association between the predictor variables and the mediator, actor's perception of the partner's communal strength towards the actor. Here the actor's communal strength towards their partner significantly predicted the actor's perception of the partner's communal strength towards the actor, $b = .83, p < .001$. However, the partner's independently rated communal strength towards the actor did not predict the actor's perception of the partner's communal strength, $b = .09, p = .32$. Again, there were significant projection effects but no significant accuracy effects.

As in the previous mediation model for verbal self-reported emotional expression in negative discussions, here I found again that actor's perception of the partner's communal strength towards the actor did not significantly predict the actor's self-reported nonverbal emotional expression to their partner, $b = 0.14, p = .20$.

I again used the web-based tool for the Monte Carlo method (Selig & Preacher, 2008) to evaluate the full mediational model. As would be expected based on the lack of significant effects at various steps of the model, I did not find that actor's perceptions of partner's communal strength significantly mediated the relationship between actor's communal strength and actor's self-reported nonverbal emotional expression (actor-actor indirect effect, $b = 0.11$, $se = 0.09$, 95% CI -0.06 to 0.30). Additionally, I did not find that actor's perceptions of partner's communal strength significantly mediated the relationship between partner's communal strength and actor's self-reported nonverbal emotional expression (partner-actor indirect effect, $b = 0.01$, $se = 0.02$, 95% CI -0.04 to 0.03).

Figure 15*Mediational Model of Communal Strength Predicting Nonverbal Expression*

Note. Path models of the mediational model tested to examine how the associations between actor and partner communal strength and actor's self-reported nonverbal expression could be mediated by the actor's perception of the partner's communal strength.

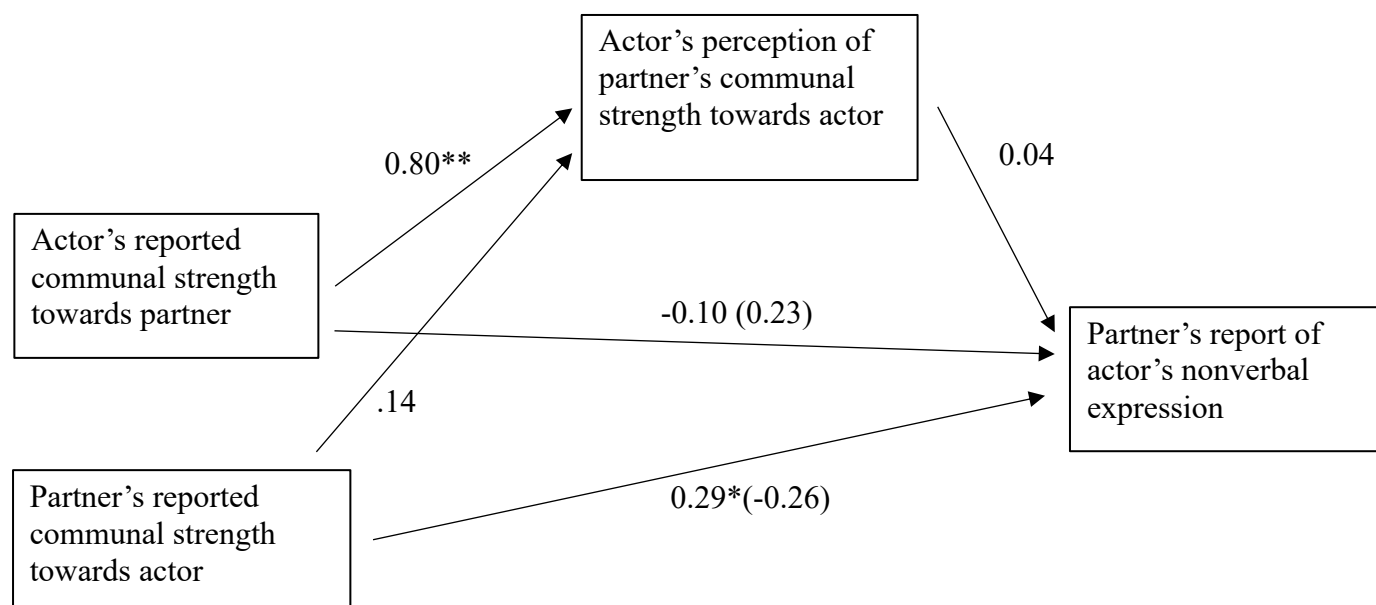
Next, I tested the same APIM model to examine whether actor's communal strength and partner's communal strength predicted *partner's* reports of the actor's nonverbal emotional expression. Interestingly, I found that the actor's communal strength towards the partner did not significantly predict their partner's reports of the actor's nonverbal expression, $b = -0.10$, $p = .34$, see Figure 16. However, partner's reports of the partner's communal strength towards the actor did significantly predict the partner's reports of how nonverbally expressive the actor is, $b = .29$, $p = .009$. In other words, the more communally the partner felt towards the actor, the more the partner thought the actor expressed emotion nonverbally in a positive discussion.

When I looked at the links between the predictor variables and the mediating variable, actor's perception of the partner's communal strength, I found the expected significant link between actor's communal strength towards the partner and actor's perception of the partner's

communal strength, $b = 0.80$, $p < .001$. However, there was no significant association between partner's independently reported communal strength and the actor's perception of the partner's communal strength, $b = 0.14$, $p = .14$. Again, there was projection without accuracy.

Looking now at links between the mediating variable and the outcome variable, actor's nonverbal emotional expression, I found that there was no significant link between the actor's perception of the partner's communal strength and the partner's perception of the actor's nonverbal expression, $b = .04$, $p = .69$.

Finally, I used the same web-based model to assess the full mediational model using the Monte Carlo method (Selig & Preacher, 2008). As anticipated, I found that the actor's perception of their partner's communal strength did not significantly mediate the link between actor's communal strength and partner's reports of actor's nonverbal expression (actor-actor indirect effect, $b = 0.03$, $se = 0.08$, 95% CI -0.18 to 0.12). Further, actor's perception of partner's communal strength does not significantly mediate the link between partner's communal strength and partner's reports of actor's nonverbal emotional expression (partner-actor indirect effect, $b = 0.005$, $se = 0.01$, 95% CI -0.009 to 0.08).

Figure 16*Mediational Model of Communal Strength Predicting Nonverbal Expression*

Note: Path models of the mediational model tested to examine how the associations between actor and partner communal strength and partner's reports of actor's nonverbal expression may be mediated by the actor's perception of the partner's communal strength.

Finally, I ran an additional APIM model assessing whether actor's communal strength and partner's communal strength predict objective coders' ratings of the actor's nonverbal emotional expression. Here there was only one marginal effect that the actor's communal strength marginally, although in a direction consistent with my hypothesis, predicted the coders' ratings of the actor's nonverbal emotional expression, $b = 0.16, p = .05$. There was no significant direct effect of partner's reported communal strength predicting coders' ratings of actor's nonverbal expression, $b = -0.05, p = .50$.

D. Negative Discussions- Nonverbal Expression

Switching to examining these links within negative discussions, the parallel series of APIM models was run to examine how communal strength might predict the actor's nonverbal emotional expression. To start, I tested an APIM model examining how actor's communal

strength and partner's communal strength predicted the actor's self-reported nonverbal emotional expression in a negative discussion. There were no significant direct effects.

I next examined an APIM model assessing whether actor's communal strength and partner's communal strength predicted the actor's nonverbal emotional expression as reported by the partner. In parallel to the results for positive discussions, I found that actor's communal strength did not significantly predict perceiver's ratings of the actor's nonverbal expression, $b = 0.01, p = .90$, see Figure 17 for a representation of the model with these results. However, the partner's reports of their own communal strength towards the actor did significantly predict the partner's reports of the actor's nonverbal emotional expression, $b = 0.26, p = .02$.

Given the significant direct effect of partner's communal strength predicting actor's nonverbal expression, I next tested the links between the predictor variables and the mediating variable, actor's perception of partner's communal strength. In parallel to the prior findings, I found that the actor's communal strength towards the partner significantly predicts the actor's perception of the partner's communal strength ($b = .80, p < .001$), but the partner's independent rating of their communal strength does not predict the actor's perception of the partner's communal strength, $b = 0.15, p = .12$.

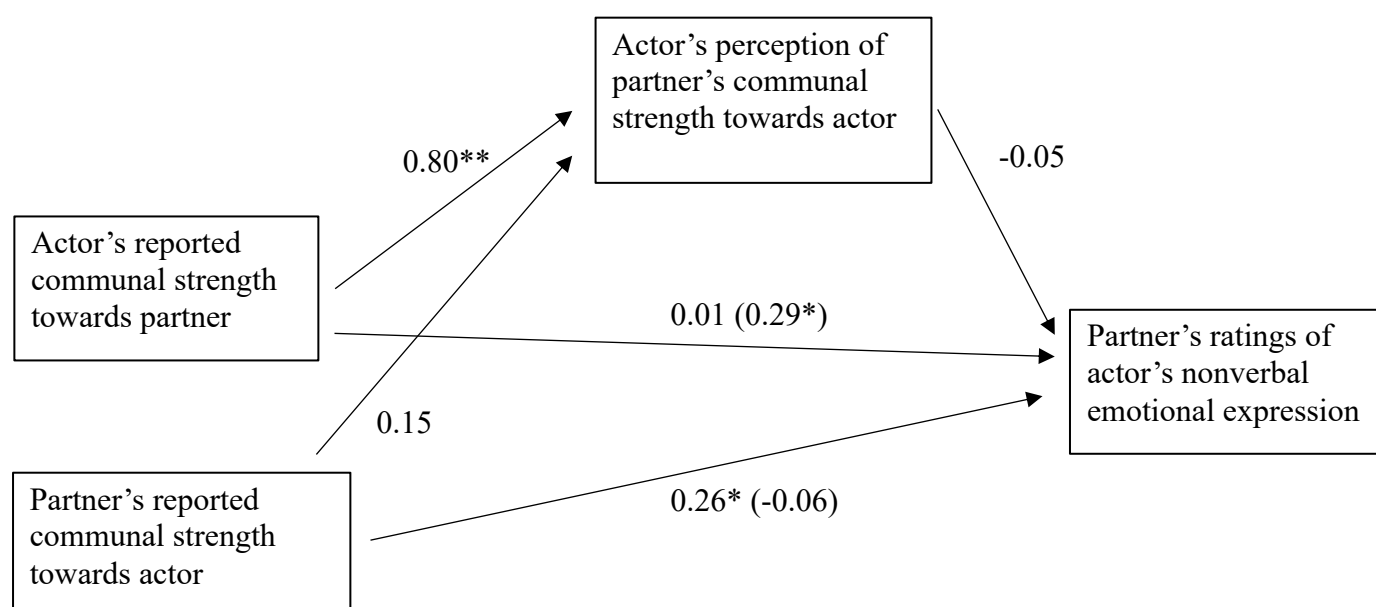
Turning now to examining the potential link between the mediator and the outcome variable, I found that there is no significant link between the actor's perception of the partner's communal strength and the partner's rating of the actor's nonverbal emotional expression, $b = -0.05, p = .56$.

As a final step to test the full mediated model, I utilized a web-based tool for the Monte Carlo method (Selig & Preacher, 2008). As anticipated due to a lack of significant results at several steps of the model, actor's perception of partner's communal strength towards the actor

did not mediate the relationship between the actor's communal strength and the partner's rating of the actor's nonverbal emotional expression (actor-actor indirect effect, $b = -0.043$, $se = 0.074$, 95% CI -0.22 to 0.11). Additionally, the actor's perception of the partner's communal strength towards the actor did not significantly mediate the link between the partner's communal strength and the partner's ratings of the actor's nonverbal expression (partner-actor indirect effect, $b = -0.008$, $se = 0.015$, 95% CI -0.02 to 0.06).

Figure 17

Mediational Model of Communal Strength Predicting Nonverbal Expression



Note. Path models of the mediational model tested to examine how the associations between actor and partner communal strength and partner's reports of the actor's nonverbal expression could be mediated by the actor's perception of the partner's communal strength.

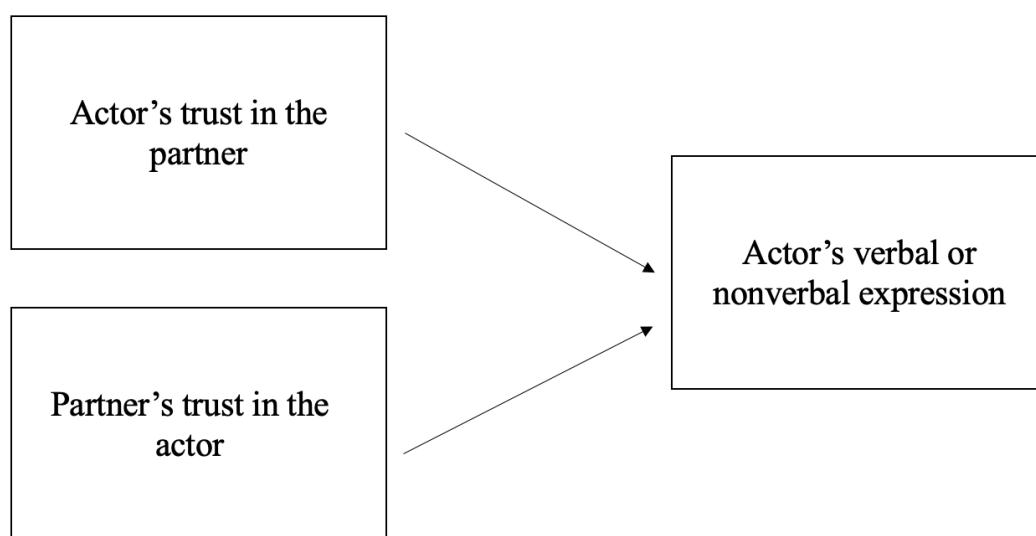
Finally, I tested an APIM model to examine whether actor's communal strength and partner's communal strength predicted the actor's coded nonverbal emotional expression. There were no significant direct effects.

III. Trust in the partner

In a similar fashion to partner responsiveness, I predicted also that trust in one's partner would be linked to greater verbal emotional expressiveness. Again, I did not make any predictions about nonverbal expressiveness. The basic Actor-Partner Interdependence model that I used to design and run these analyses can be found in Figure 18.

Figure 18

APIM Model for Trust Predicting the Actor's Verbal and Nonverbal Expression



Note. Actor's verbal and nonverbal expression was separately reported by the actor, the partner, and outside coders.

A. Positive Discussions- Verbal Emotional Expression

First, I tested an APIM model to examine whether actor's trust and partner's trust predicted the actor's self-reported verbal emotional expression in positive discussions. Interestingly, there were no significant links between trust and actor self-reported verbal expression.

Next, I tested the same APIM model to examine whether actor's trust and partner's trust predicted *partner's* reports of the actor's verbal emotional expression in positive discussions.

Here the actor's trust in the partner significantly predicts the partner's perception of the actor's verbal emotional expression, such that more trusting actors are seen to express more verbally by their partner, $b = 0.29, p = .02$. Partner's trust in the actor did not significantly predict the partner's perception of actor's verbal emotional expression, $b = 0.11, p = .36$.

I then tested the same APIM model to see if actor's trust and partner's trust significantly predicted objectively coded verbal expression, as measured by the LIWC item for "affect." There was no significant link between trust and this measure of verbal expression. I also tested the same APIM model to see if trust predicted the LIWC item for "positive emotion." There were again no significant links between trust and this measure of verbal expression.

Finally, I tested the same APIM model to see if actor's trust and partner's trust predicted the other primary measure of objectively coded verbal expression, the ratings made by coders of how much the actor verbally expressed. Actor's trust significantly predicted the coders' ratings of how much emotion the actor expressed verbally, $b = 0.22, p = .009$. However, partner's trust did not predict the coders' ratings of how much emotion the actor expresses verbally, $b = -0.02, p = .83$.

B. Positive Discussions- Nonverbal Emotional Expression

First, I tested an APIM model to see if actor's trust and partner's trust predicted actor's self-reported nonverbal emotional expression. Here I found that actor's trust significantly predicted actor's ratings of how much they expressed emotion nonverbally, $b = 0.48, p = .001$. Partner's trust did not significantly predict actor's self-reported ratings of nonverbal expression, $b = -0.09, p = .53$.

Next, I tested an APIM model to see if actor's trust and partner's trust predicted *partner's* reports of the actor's nonverbal emotional expression. I found that the actor's trust in their

partner significantly predicted the partner's ratings of how much emotion the actor expressed nonverbally, $b = 0.49, p > .001$. Partner's trust in the actor did not predict the partner's ratings of how much emotion the actor expressed nonverbally, $b = -0.01, p = .93$.

Finally, I ran an APIM model to test whether actor's trust and partner's trust predicted actor's nonverbal expression, as measured by the ratings of our objective coders. Actor's trust in the partner also predicted the extent to which the objective coders rated the actor as being nonverbally expressive, $b = 0.24, p = .01$. Partner's trust in the actor did not predict the coders' ratings of the actor's nonverbal emotional expression, $b = 0.11, p = .25$.

C. Negative Discussions- Verbal Emotional Expression

To start, I tested an APIM model to see if actor's trust in the partner and partner's trust in the actor predicted actor's self-reported verbal emotional expression in a negative discussion. As predicted, actor's trust predicted their self-reported verbal expression, $b = 0.26, p = .03$. However, partner's trust in the actor did not predict the actor's self-reported verbal expression, $b = -0.10, p = .47$.

Next, I tested the same APIM model to see if actor's trust and partner's trust predicted the partner's rating of the actor's verbal emotional expression in a negative discussion. Similar to the above finding, actor's trust predicted the partner's ratings of how verbally expressive the actor is, $b = 0.35, p = .003$. But partner's trust did not predict the partner's ratings of how verbally expressive the actor is, $b = -0.14, p = .23$.

Next, I tested the same APIM model to see if actor's trust and partner's trust predicted ratings from the LIWC software for the item "affect". Unsurprisingly, given the results for positive discussions, there were no significant links.

I then tested the same APIM model to see if actor's trust and partner's trust predicted the LIWC ratings for negative emotion. Again, there were no significant associations.

Finally, I tested the APIM model to see if actor's trust and partner's trust predicted the ratings of verbal expressiveness from our objective coding team. There were no significant effects.

D. Negative Discussions- Nonverbal Emotional Expression

To start, I tested an APIM model to see if actor's trust and partner's trust predicted actor's self-reported nonverbal emotional expression in a negative discussion. Actor's trust in their partner significantly predicted the actor's self-reported nonverbal expression, $b = 0.31, p = .03$. Partner's trust in the actor did not predict actor's self-reported nonverbal expression, $b = -0.05, p = .76$.

I then tested the APIM model to see if actor's trust and partner's trust predicted partner's ratings of the actor's nonverbal emotional expression in a negative discussion. I found that the actor's trust in the partner marginally predicted their partner's ratings of how nonverbally expressive the actor is, $b = 0.26, p = .05$. Partner's trust in the actor did not predict partner's ratings of how nonverbally expressive the actor is, $b = 0.03, p = .84$.

Finally, I tested the APIM model to see if actor's trust and partner's trust predicted the ratings of the actor's nonverbal expressiveness made by our objective team of coders. There were no significant links.

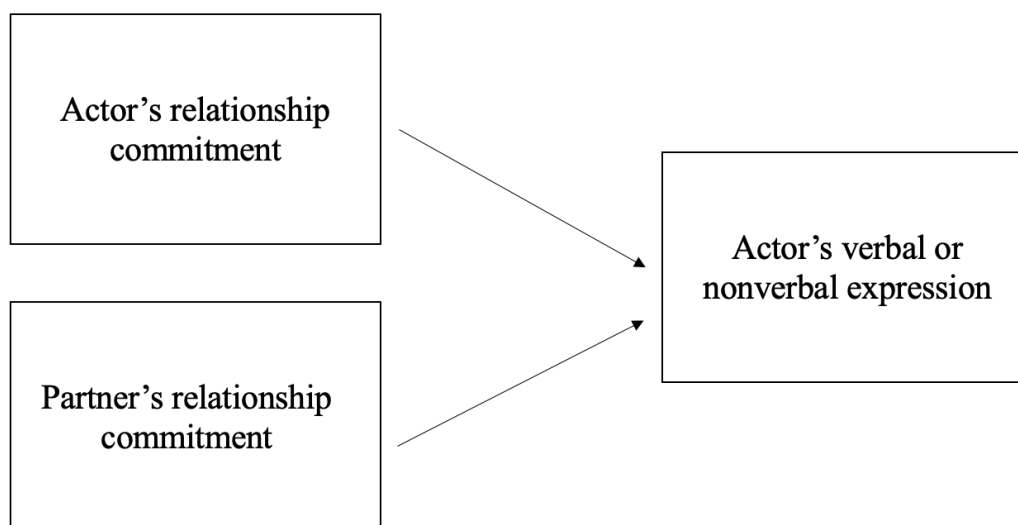
IV. Relationship Commitment

As before, I predicted that greater commitment to the relationship would predict an expresser sharing more emotion verbally, but I did not make any predictions about nonverbal

expression. See Figure 19 for a visualization of the basic Actor-Partner Interdependence Model that I used in designing and executing these analyses.

Figure 19

APIM Model for Relationship Commitment Predicting the Actor's Verbal or Nonverbal Emotional Expression



Note. Actor's verbal and nonverbal expression was reported separately by the expresser, the perceiver, and the objective coders.

A. Positive Discussions- Verbal Emotional Expression

To test the predictions about potential links between relationship commitment and emotional expression, I ran the same sets of models as I ran above for trust, now with commitment as a predictor variable.

First, I tested an APIM model to see if actor's relationship commitment and partner's relationship commitment predicted self-reported verbal emotional expression of the actor. Neither link was significant.

Next, I tested the same APIM model to see if actor's relationship commitment and partner's relationship commitment predicted partner's report of the actor's verbal emotional expression. Again, there were no significant links.

I then tested the same APIM model to see if actor's relationship commitment and partner's relationship commitment predicted the coded measure of affect from the LIWC coding software. Again, there were no significant associations.

I next tested the APIM model to see if actor's relationship commitment and partner's relationship commitment predicted the coded measure of positive emotion from LIWC. There were no significant links.

Finally, I tested the APIM model to examine whether actor's relationship commitment and partner's relationship commitment predicted the ratings of the actor's verbal emotional expression made by our team of coders. There were no significant associations.

B. Positive Discussions- Nonverbal Emotional Expressions

To start, I tested an APIM model to see if actor's relationship commitment and partner's relationship commitment predicted the actor's self-reported nonverbal emotional expression. There were no significant links between relationship commitment and actor's nonverbal expression.

Next, I tested the same APIM model to evaluate whether actor's relationship commitment and partner's relationship commitment predicted *the partner's* report of the actor's nonverbal emotional expression. There were no significant associations.

Following this, I tested the same APIM model to examine whether actor's relationship commitment and partner's relationship commitment predicted the ratings of the actor's

nonverbal emotional expression made by our team of nonverbal coders. There were no significant links.

C. Negative Discussions- Verbal Emotional Expressions

First, I tested an APIM model to evaluate whether actor's relationship commitment and partner's relationship commitment predicted the actor's self-reported verbal emotional expressiveness. Intriguingly, I found that actor's relationship commitment significantly predicted actor's ratings of their own verbal emotional expressiveness in negative discussions, $b = 0.20, p = .03$. Partner's relationship commitment did not predict the actor's ratings of their self-reported verbal expressiveness, $b = -0.11, p = .25$.

Next, I tested the same APIM model to examine whether actor's and partner's relationship commitment predicted the *partner's* ratings of the actor's verbal expression. There were no significant links.

I then tested the same APIM model to examine whether actor's and partner's relationship commitment predicted the LIWC affect ratings of the actor's verbal emotional expression (using the item "affect"). There were no significant associations. As above, I also tested the same model with LIWC ratings of the actor's negative emotions as an outcome variable. There were again no significant associations.

Finally, I tested the same APIM model to evaluate whether actor's and partner's relationship commitment predicted the ratings of the actor's verbal emotional expression made by our team of verbal coders. There were no significant links.

D. Negative Discussions- Nonverbal Emotional Expressions

To start, I tested an APIM model to determine if actor's and partner's relationship commitment predicted the actor's self-reported nonverbal emotional expression in a negative discussion. There were no significant links.

I then tested the same APIM model to examine whether actor's commitment and partner's commitment predicted the *partner's* ratings of the actor's nonverbal emotional expression. There were no significant associations.

Finally, I tested the same APIM model to determine if actor's commitment and partner's commitment predicted the ratings of the actor's nonverbal emotional expression made by our team of nonverbal coders. There were no significant links.

Discussion

Emotional expression to close relationship partners does not occur in a vacuum but rather is heavily influenced by dynamics of the individual as well as the relationship. In this chapter I examine three central features of relationships and how they relate to emotional expression within the relationship: responsiveness towards the partner (as well as perceptions that the partner will be responsive in return), trust in the partner, and relationship commitment.

For each of these potential antecedents, I predicted that higher levels of communal strength towards the partner, trust in the partner, and commitment to the relationship would predict greater verbal emotional expression.

A detailed overview of the results for each predictor variable is below. Overall, I found some evidence that these aspects of high-functioning relationships positively predicted verbal expression, but I also found evidence that they predicted nonverbal expression, which is explored in more detail. I first found that higher responsiveness (communal strength) predicted greater verbal emotional expression (self-reported) in negative discussions (although not in positive

discussions). I similarly found that higher trust in the partner predicted greater verbal emotional expression, but also greater nonverbal expression, across different sources of reporting and valences of expression. Finally, higher commitment to the relationship predicted greater verbal emotional expression.

I. Responsiveness

I first examined responsiveness, here measured through communal strength, as a potential antecedent of emotional expression between members of romantic dyads. Because of the dyadic nature of this dataset, I was able to examine responsiveness several different ways- through the expresser's ratings of their responsiveness towards the perceiver, the perceiver's independent ratings of their responsiveness towards the expresser, and each partner's perceptions of the other partner's communal strength towards them.

I predicted that greater responsiveness (communal strength) toward one's partner would predict greater verbal emotional expression toward that partner. I further predicted that this link would be mediated by the expresser's perception of their partner's communal strength. However, I did not make any predictions about nonverbal emotional expression. I employed a multi-level mediational model to assess first whether ratings of responsiveness towards the partner predicted verbal or nonverbal emotional expression, and then, if that link was significant, to see if this relationship was mediated by the expresser's perceptions of the perceiver's communal strength.

Intriguingly, and contrary to my predictions, I did not find any support for a fully mediated model. Given that Von Culin and colleagues (2017) did find support for these fully mediated models predicting willingness to express, this lack of findings may signal that there is something distinct about actual expression of emotion, which will be explored more below.

Although these results did not provide support for any of the predicted fully mediated models, there were some significant results within the models that emerged in predicted and consistent ways.

In direct support of my central prediction, I did find that actor's communal strength significantly predicted actor's ratings of their own verbal emotional expression in a negative discussion. In other words, the more an expresser rates themselves to feel communally responsive towards their partner (prior to coming into the laboratory), the more the expresser reported that they expressed emotion verbally to their partner when discussing a negative topic. This is compelling evidence for the idea that expressing emotion verbally is undeniable and vulnerable, and that this is more likely to occur when the expresser feels more responsive towards their partner as compared to when the expresser feels less responsive.

Intriguingly, I also found a link between the actor's communal strength and the actor's self-reported *nonverbal* emotional expression in *positive* discussions. That is, when discussing a positive topic, the more the expresser feels communally responsive towards their partner, the more they report expressing emotion nonverbally towards that partner. Although this effect was unexpected, it could signify that there is something revealing about demonstrating emotion nonverbally to one's partner when discussing a positive topic. Feeling more responsive towards the partner (and simultaneously projecting that responsiveness onto the partner, as discussed below) may mitigate any concern that one's partner could dismiss or derogate one's positive emotion when expressed in such a sincere, genuine way. This could promote nonverbal emotional expression in this context.

These results taken together signal that partners are not only more willing to express emotion to partners with whom they feel more communal, but also that they actually do express

more, at least in their own reports. Although these differ across the channels of expression and the valence of discussion, it does provide some basic support for a link between responsiveness and actual expression. What's intriguing here is that we are not seeing this link between the expresser's communal strength and either the perceiver's report of the expresser's emotion or the coders' reports. This suggests there is a process happening entirely within the head of the expresser. Partners and outside coders are either not picking up on the expresser's true level of responsiveness, an idea which is supported by the lack of accuracy effects for communal strength across all models, or they are evaluating the amount of the expresser's verbal and nonverbal emotional expression differently from the expresser, an idea which is supported by the low reliability between these different sources of accuracy found in Chapter 2. Both are interesting ideas and suggest avenues for future exploration.

It's intriguing that results emerge, in different patterns, for both verbal and nonverbal emotional expressiveness, contrary to my predictions. In fact, in the marginal trends for verbal expressiveness for the LIWC items, we actually see that greater communal strength towards one's partner might (marginally) predict *less* verbal emotional expression. This suggests that it may be less necessary or desired to share your emotions directly and explicitly when you feel more communally towards your partner. Perhaps when the nonverbal expression is there, verbal expression feels unnecessary because you expect your partner to respond appropriately to your emotions, and it may be sufficient to express that emotion through the nonverbal channel to convey that it is genuinely felt and should be responded to. Interestingly, though, this may only be the case for positive discussions given that we do find some indication that greater communal strength predicts greater verbal expression in a negative discussion.

In considering why these results differ across positive and negative discussions, it may be that positive and negative emotional discussions differ in their expectations of partner support. Although we hope that partners will help to capitalize on positive emotions in highly functional relationships (Gable et al., 2004), we may still require more responsive behavior from our partner when we express a negative emotion. This may be why we are seeing that communal strength predicts verbal expression in a negative discussion but not in a positive discussion; perhaps the context of a negative emotional discussion requires more direct, explicit verbal articulation of the emotion to ensure that a partner helps regulate the expresser's feelings and provides direct, needed support. In positive discussions, it may be more sufficient to rely on nonverbal expressions to communicate genuine joy or happiness without needing the directness of a verbal declaration.

A. Perceiver Reports

Intriguingly and contrary to predictions, I also found that the *perceiver's* communal strength predicts the *perceiver's* reports of the actor's *nonverbal* emotional expression in positive and negative discussions. This set of findings now sits entirely within the perceiver, unlike the results above that were entirely in the expresser. In other words, the more communally responsive the perceiver feels towards the expresser, the more the perceiver rates the expresser to be expressing emotion nonverbally across both emotional contexts. This is additionally intriguing given the significant effect in both of these models of each partner projecting their own communal strength onto their partners (because both members of the dyad act as both actor and partner within these dyadic models). This means that perceivers may both be rating themselves as more responsive and also projecting this responsiveness onto the expressers.

In interpreting these results, it may be that more responsive partners are simply seeing more nonverbal expression in the expressers, even if this perception is not shared by the expressers themselves or the coders. Perhaps caring for one's partner and being responsive to them (as would be the case for highly communal perceivers) means that perceivers are ready to see any signal of emotion in their partners and sensitive to any kind of potential emotional display that they can respond to.

It may also be that perceivers who feel more communally towards their partner presume that their responsiveness must be prompting their partner to express more genuine and sincere emotion to them because the expresser knows they will receive support. This is purely speculative, but it could then lead to the expresser sharing more emotion nonverbally or to the perceiver seeing more nonverbal emotion.

B. Projection of Communal Strength

Across both positive and negative discussions and across reports of verbal and nonverbal emotional expression, I found support for projection of communal strength on the part of the actor. This was not a central prediction of this set of analyses, but is consistent with prior literature (e.g., Lemay & Clark, 2008). The outcome variable here differed across these models, such that these effects emerged both when actors were reporting on their own expression (in the case of verbal expression in negative discussions and nonverbal expression in positive discussions) and when partners reported on actor's expression (in the case of nonverbal expression in both positive and negative discussions)⁸. Although none of the links between the

⁸ Although these projection effects emerge across models that use different outcome measures, namely either self-reported emotional expression or partner-reported emotional expression, I note here that I did not test this path of the model for all combinations of predictor and outcome variables. For example, I did not test this path for actor-reported nonverbal emotional expression in the negative discussions. This is because the path from actor's communal strength predicting actor's reports of nonverbal expression was not significant in negative discussions. Further, it is logical that these effects would be found across different outcome variables because the predictor variables of communal strength were all measured at the pre-test and did not vary across these different models.

mediating variable, actor's perception of partner's communal strength, and these different outcome variables emerged, the finding of consistent projection of communal strength across these different models does suggest the robustness of this effect. Despite the consistency of these projection effects across our analyses, it's important to note that we cannot assume that this projection is predicting or in any way driving the expression of emotion. In other words, it may be that participants are reporting expressing more emotion when they feel communally (in some cases) independently from projecting their own communal strength onto their partners. These are separate effects, and it's not clear how much this projection might be inspiring the expressive behavior, especially considering the lack of mediation in this model.

In considering why I did not find support for the fully mediated models, it is helpful to think about what fundamentally differs in this study from the work done by Von Culin and colleagues (2017). First, the measurement of communal strength occurred during the pre-laboratory battery of questionnaires while the reports and observations of actual emotional expression occurred in the laboratory several days later. It is possible that we don't see this link emerge here because partners are not thinking actively about how responsive they are, in general, or how responsive their partner is, in general, when they are expressing in real time. Without the salience of having to measure their own and their partner's responsiveness fresh in their minds, participants may not be regulating their emotional behavior in the lab in accordance with thoughts of responsiveness. In other words, perhaps when thoughts of responsiveness within the relationship are not salient to the expresser, the expresser is not modulating to express more emotion verbally (or nonverbally) as they might when they are more conscious of their own and their partner's responsiveness. The findings from Ruan and colleagues (2020, Study 2) provide some support for this; their manipulation of perceived responsiveness involved making it either

more or less salient that their partner was responsive by asking participants to recall either 2 (more responsive) or 10 (less responsive) instances of support provided. Given that the authors find a causal link between greater perceptions of responsiveness and higher emotional expression, it may be that this salience of responsiveness does promote modulation of behavior, helping to explain why we do not find the same links when reminders of responsiveness are separated out in time.

In addition to a potential modulation of the actual expression, it may also be that thinking about responsiveness typically creates a bias in responding that doesn't occur when these reports are separated in time. For example, it may be that partners are inflating how much they would be willing to express when these reports are influenced by perceived responsiveness or other cognitive thoughts about the relationship.

Finally, it may also be that there is something unique about actual expression of emotion. Perhaps when we are faced with our partner directly and put in a position of expressing emotion about an everyday topic in the midst of a discussion, the demands of expressing and carrying on the conversation mean that our perceptions of how responsive our partner is don't carry as much weight as they might absent the stresses and pressures of an actual emotional discussion. Perhaps we are too focused on expressing and accurately conveying how we are feeling to be influenced by how responsive our partner might be. This also provides an intriguing avenue to further explore.

II. *Trust in the Partner*

Given that trust in one's romantic partner builds over time as couples become more interdependent and learn to rely on their partner's responsive, relationship-building reactions to trust-diagnostic situations (Simpson, 2007), I predicted that greater trust in one's partner would

be specifically linked to higher verbal emotional expressiveness. Because verbal expressions signal intentional communication of an emotion that clearly warrants a response, and because they require a degree of vulnerability to directly share emotion through this channel, I thought this mode of expression would be closely tied to trust. However, I did not make specific predictions about nonverbal expression given that it could, on the one hand, be closely tied to trust in that it signals how an expresser truly feels (which requires some amount of vulnerability). On the other hand, it could also be less controlled (or perceived to be less controlled) and therefore less of an indicator of the relationship strength.

In line with my primary prediction, I did find that, across both positive and negative discussions, the expresser's trust in their partner positively and significantly predicted the expresser's verbal emotional expression to their partner. Interestingly, in positive discussions, this was only the case for perceiver's reports of the expresser's verbal expression and for the objective coders' reports of the expresser's verbal expression (but not for the expresser's self-reports). In negative discussions, however, this was true for the expresser's self-report and the perceiver's report (but not for the coders' reports).

Surprisingly, I also found that expresser's trust in their partner positively and significantly predicted expresser's *nonverbal* emotional expression across both positive and negative discussions. These findings were surprising, and in positive discussions this link even appeared across all three sources of reporting on the expresser's nonverbal expressions (the expresser's self-report, the partner's report, and the objective coders' reports). This pattern was not as clear in negative discussions, though, as trust only predicted the expresser's self-reported nonverbal expression and marginally predicted the perceiver's perception of the expresser's nonverbal expression.

Taken together, these results demonstrate that trust in one's partner is linked broadly to emotional expression. These associations between trust and verbal and nonverbal expression occur in both positive and negative discussions and, further, can be detected in multiple sources of reporting on the expression. This provides robust evidence that emotional expression and trust are positively linked within close relationships, and it indicates that emotional expression might be an important mechanism to building intimacy and trust (Reis & Shaver, 1988) and that trust might be a crucial precursor to expressing emotion verbally and nonverbally.

However, a primary goal of this study was to examine the differences between verbal and nonverbal expression, so it is helpful to reflect on these here.

Starting with the links to verbal expressions, one might expect that these links would show up most clearly in reports that both originate from the expresser. In other words, one might expect that the expresser's self-reported trust in their partner would most clearly predict the expresser's self-reported verbal expression. It is therefore intriguing that this link only appeared in negative discussions, when this verbal expression may be more revealing and therefore more salient. In negative discussions, we also see that trust predicted both the actor's self-reported verbal expression as well as the partner's perception of the actor's verbal expression, but not the coders' perceptions. Perhaps there is something distinct about expressing negative emotion to a close relationship partner that is encapsulated within the relationship and less apparent to outside observers. For example, if an expresser always tries to find a silver lining by talking about the positive aspects of a situation when expressing genuine sadness, this may be a mannerism that both partners are aware of because of shared relational history but that is less decipherable to an outside observer. The individuals within the relationship may be able to evaluate the emotions shared by the expresser as actual sadness whereas the outside observer might read the expression

as more positive than it is. Shifting to positive discussions, however, we see that the only people picking up on expression that is linked to trust are outside of the relationship: the perceiver and the coders. Perhaps this is a situation where expressers are so busy expressing positive emotion and being caught up in the moment that their own verbal emotional expressions are not particularly salient or memorable to them.

Thinking now about the links between trust and nonverbal emotional expressions, it is intriguing that there is a larger difference between the significant associations for positive discussions and negative discussions. Contrary to the findings for verbal expression, the finding that trust also predicts the expresser's self-reports of nonverbal expression, along with the perceiver reports and the coders' reports, signals that there may be something uniformly recognizable and salient about positive nonverbal emotional expressions across all sources of reporting. Perhaps the kinds of nonverbal expressions associated with positivity (e.g., smiling, animation, and enthusiastic gesturing) are clear and undeniable forms of expression that allow the expresser to be more vulnerable to their partner's responsive (or not) reactions. This might suggest that positive nonverbal expressions have the same kind of intentional and conscious perceptions that I believe verbal expressions to have while also being genuine expressions of an emotional experience. This may be why these nonverbal expressions are so closely tied to trust in the partner. Alternatively, in negative discussions we only see the association between trust and expresser's self-reported nonverbal expression. This may be because nonverbal expressions of negative emotion are more personally dependent and less recognizable to outside observers, including one's romantic partner. These displays of negative nonverbal emotion may be less clear and undeniable than positive displays, especially in the context of discussing only moderately negative emotional topics.

III. Relationship Commitment

In parallel to the predictions for trust in the partner, I anticipated that those with higher commitment to one's relationship would also express more emotion verbally. Presumably, being more deeply committed to the relationship compels one to be more open and vulnerable with one's partner, especially when it comes to direct, undeniable expressions of emotion through the verbal channel. I again did not make any specific predictions about nonverbal expression, for similar reasons to the lack of predictions for trust; nonverbal expressions may signal that an emotion is truly felt (revealing vulnerabilities), but they may also be operating with less conscious processing and intentionality (or at least be perceived to be).

In line with this primary prediction, I do find that, in negative discussions, the expresser's commitment to the relationship does significantly predict their self-reported verbal emotional expression. This fits with my conceptualization of these links because it indicates that verbally expressing negative emotions, which are undeniable, highly salient, and revealing of vulnerabilities, either requires partners to be fairly committed to the future of the relationship or builds that commitment through deepening intimacy and interconnectedness.

However, none of the other links were significant, including other associations between commitment and verbal expression as reported by other sources. This is surprising, and it does inspire cautiousness in interpreting the one significant result (despite the result being logically in line with my predictions).

There are a few viable explanations for this lack of findings. First, perhaps the lack of significant results is due to a ceiling effect of commitment in this sample. Commitment was, on average, fairly high in this sample, and all participants did choose to self-identify themselves as in a relationship and willing to participate in a study together. This may mean that our sample

skews towards more committed than it might in a broader survey of close relationships.

Alternatively, it could be that commitment to the relationship, although it is highly related to interdependence within the relationship from a conceptual standpoint, may not be as sensitive to the fluctuations of daily emotional expressions like those found in these naturalistic, everyday emotional discussions. Commitment to the relationship may be too abstract of a relational concept and too stable across time to be linked with these kinds of day-to-day emotional expressions in a sample of highly satisfied, established relationships such as the one we used. Further, there are a number of factors that influence commitment to the relationship above and beyond desire to stay in the relationship, so there may be less of a clear link between the factors that make the experience of being in the relationship more or less pleasant (including the ways in which emotion is communicated and responded to) and commitment.

Chapter 4: Consequences of verbal and nonverbal emotional expressions for newly initiated relationships

Introduction

As articulated above, one of the most central functions emotional expressions serve for close relationships is that they signal to a relational partner the state of the expresser's welfare (Ackerman et al., 2011; Clark et al., 2001; Gaelick et al., 1985; Graham et al., 2008; Planalp, 1996) and they suggest to that relational partner what sort of responsiveness might be beneficial. For instance, a sad person may express that sadness through tears and verbal declarations of despair, which signals to their partner that they might benefit from their partner cheering them up (Clark et al., 1987). Moreover, if it is apparent that the emotion was intentionally expressed, the expression may give a relational partner permission to respond to the expresser in ways that meet those needs, because intentional expressions of emotion may convey that the expresser wants the perceiver to know how she is feeling.

Despite the importance of receiving help from a perceiver in emotional situations, we know considerably less about the *specific aspects of emotional displays* that elicit help than we know about the benefits of expressing emotion generally and receiving help in return (e.g., Graham et al., 2008; Clark et al., 1987). Through conducting the study described in this chapter, I sought to examine how verbal and nonverbal emotional expressions might have distinct and/or interactive effects on help received in response to those expressions. Additionally, in this study I was interested in how perceptions of the expresser and the future of the relationship between the expresser and the perceiver might be influenced by the channels of expression, verbal and nonverbal, within a relationship initiation context. As humans are social creatures seeking to build and maintain healthy close relationships (Baumeister & Leary, 1995), it is important that we consider how the different facets of emotional expression might contribute to the formation

of relationships. For example, perceivers to whom emotion is intentionally expressed may feel that the expresser trusts them and, as a consequence, may find the expresser to be more likable. Importantly, the extent to which this intentional emotional expression is conveyed through verbal and nonverbal channels may be significant for informing these perceptions, and thus for facilitating the initiation and growth of relationships.

In contrast to the studies already reported in this dissertation, this study was a fully experimental design with verbal and nonverbal emotional expression manipulated to assess the consequences of these expressions for a newly initiated relationship. This study allows me to draw causal and direct conclusions about the impact of verbal and nonverbal expressions on relationship development and functioning.

In the study presented in this chapter, I follow-up and expand upon a study conducted previously by members of our lab which was designed to examine how specifically expressing negative emotions could be functional by encouraging perceivers to provide help (Graham et al., 2008, study 2). In study 2 of Graham and colleagues' paper, the experimenters examined how a confederate's expression of nervousness impacted the amount of help given to that confederate as she prepared to give a speech. Participants believed that the confederate was another participant who had been assigned randomly to give two speeches whereas they, the actual participant, had been assigned to evaluate these speeches. Participants were placed into one of three conditions, with the confederate's expression of nervousness manipulated to systematically differ between those conditions. In the first condition (termed the "Expression" condition by the authors), the experimenter told the participant that the confederate was nervous, and the confederate expressed nervousness both verbally and nonverbally on a tape. In the second condition, (termed the "No-Expression" condition), the experimenter told the participant that the

confederate was nervous, and the confederate expressed nervousness nonverbally (but not verbally) on the tape. In the third (control) condition, the experimenter did not mention anything about the confederate being nervous and the confederate did not express nervousness, nonverbally or verbally, on the tape.

Following this manipulation, Graham and colleagues' participants were given the opportunity to help the confederate prepare for her second speech, which would be on famous painters of the modern art era. Graham and colleagues selected this topic because it is obscure and would presumably require the speaker to do some research to prepare for the speech, thus creating an opportunity for the participant to provide help to the speaker in doing this research, if they wished. Specifically, participants were given access to a computer and told they had about ten minutes until the next task. The experimenter told participants they could spend that time doing online research on the topic and sending helpful links to the confederate or checking their email, surfing the internet, or doing anything else they would like. The key dependent variables in the study by Graham and colleagues were: 1) the extent to which the participant liked the confederate following the emotional expression manipulation, and 2) how willing they were to help the confederate prepare for their speech (measured by the number of relevant websites visited and sent).

As predicted, Graham and colleagues found that participants provided the most help when the confederate expressed emotion both verbally and nonverbally and the experimenter mentioned that the confederate was nervous (the "Expression" condition) compared to when the confederate did not express nervousness verbally, did express it nonverbally, *and* the experimenter mentioned that the confederate was nervous ("No-Expression" condition). Further, participants did not provide any more help in either the "Expression" *or* the "No-Expression"

condition than in the control condition (where the confederate did not express nervousness verbally or nonverbally nor did the experimenter mention anything about the expresser being nervous), suggesting that *neither* the experimenter's comment about the confederate's nervousness or the confederate's nonverbal expression had an impact because both were included in the "No-Expression" condition. Interestingly, the authors did not find any effect of expression on liking, suggesting that expressing negative emotion did not make the confederate any more or less likable.

Despite the valuable contributions of the Graham et al. (2008, study 2) study to our knowledge of the instrumentality of negative verbal emotional expressions, the study is not without drawbacks. Although the authors manipulated emotional expression such that the ways emotion was expressed varied across the conditions, this design was not fully crossed, and the authors blended the confederate's direct emotional expression with the experimenter's description of the confederate's emotional state. Given that the only difference between the "Expression" and the "No-Expression" conditions, which were significantly different in terms of the help they elicited from participants, is the presence of verbal emotional expression, I thought it would be beneficial to design a similar study that also allowed for highlighting and isolating verbal expression.

In considering these results from Graham and his colleagues (2008), it seems that a person's direct verbal statement of emotion has an effect on eliciting support that extends beyond the effect that nonverbal emotional cues and third-party (here the experimenter) contextual emotion information have. As theorized in Chapter 1 and empirically demonstrated in Chapter 2, verbal emotional expressions 1) signal to a perceiver that the expresser wants the perceiver to see how they are feeling (intentionality) and 2) give the perceiver permission to respond to the

expression. They also indicate a willingness to be vulnerable on the part of the expresser as a verbal emotional expression is undeniable and often requires less interpretation than nonverbal emotional expressions.

For the study described in this chapter, I designed a follow-up to the study by Graham and colleagues in which I manipulated verbal and nonverbal expressions of nervousness in a fully crossed design. This study further avoided the complicating variable of any additional emotional information being provided by the experimenter.

In the present study, participants are introduced to an attractive male confederate and provided with the confederate's background demographic information, which is similar to their own; a manipulation conducted to inspire liking and similarity across all participants (adapted from Walton et al., 2012). Then participants viewed one of four videos corresponding to the expression conditions. The conditions were Verbal Low-Nonverbal Low, Verbal Low-Nonverbal High, Verbal High-Nonverbal Low, and Verbal High-Nonverbal High. Following this manipulation, I asked participants to evaluate the confederate and his speech on a number of dimensions, including how much they liked and trusted the confederate, how interested they were in forming a future relationship with the confederate, and how much they thought he liked and trusted them. I also measured how much the participant helped the confederate by adapting the measure of help that was used by Graham and colleagues (2008, study 2). That is, I told participants that they could help the confederate if they wished by doing research and sending helpful websites on the topic of the next speech the confederate was required to give.

Predictions

I predicted, based on the results reported by Graham and colleagues (2008, study 2), that individuals who heard a high verbal emotional expression would provide more help to the expresser compared to those who heard a low verbal emotional expression.

I further expected that participants who saw and/or heard the confederate express nervousness nonverbally or verbally would like and trust the expresser more compared to those who saw and/or heard a low nonverbal or a low verbal expression of nervousness.

Based on my theorizing that verbal emotional expressions communicate vulnerability and grant a perceiver permission to respond appropriately to an expression, I predicted that participants who are on the receiving end of an emotional expression high in verbal articulation would report that the confederate liked and trusted them more than those who received emotional expressions low in verbal articulation. Additionally, I predicted that participants who received an emotional expression high in verbal articulation would want to pursue a future relationship with the expresser more than those who received an emotional expression low in verbal articulation. However, I thought it might be that nonverbal expression must also be high to find this pattern of results, which this design will enable me to assess.

I further theorized that the two channels are likely interacting with one another, which may mean that the specific combination of how much verbal and nonverbal emotional expression is present might meaningfully impact the results for each of the dependent variables of interest. This study, because it uses a paradigm that manipulates the channels of expression in a fully crossed design, allowed me to more directly examine that potential interaction. Thus, I did anticipate that, regardless of whether or not the interaction is significant, it would be worthwhile to examine the impact of each level of verbal and nonverbal expression on the dependent variables of interest.

Finally, I was also interested in seeing whether our manipulation check item, which simply asked about the confederate's expression of nervousness, would result in a similar pattern to prior findings (Armentano & Clark, in preparation) indicating that the amount of negative emotion (sadness in this earlier study) nonverbally expressed significantly influences the extent to which the overall emotional display is rated as displaying negativity. Based on those earlier results, I expected that participants would be more likely to report that the confederate is expressing emotion (broadly speaking) when nonverbal was high compared to when it was low. I made no predictions, however, about verbal expression.

Methods

I. Stimuli Creation

The stimuli videos for this study were of the confederate, a fellow graduate student, expressing nervousness verbally and nonverbally prior to giving a speech. In the video, the confederate wore a Yale shirt that he also wore when attending each actual study session in the laboratory with the participant. Just prior to being filmed giving a speech on famous Yale alumni, ostensibly as part of the study, he expressed that he was nervous through verbal and nonverbal channels to varying extents. To manipulate verbal emotional expression of nervousness, the confederate either directly articulated that he was nervous in the Verbal High conditions by saying "Can I have a minute? I'm feeling nervous" or did not express that he was nervous in the Verbal Low conditions by saying, "Can I have a minute? I'm not ready yet." These phrases were designed to communicate a similar action request of asking to stop filming and also to be closely matched on length of speaking. To manipulate nonverbal emotional expression of nervousness, the confederate expressed that he was nervous in the Nonverbal High conditions by running his hands through his hair, grabbing his arm, and vocally and facially

expressing uneasiness. He expressed that he was not nervous in the Nonverbal Low conditions by maintaining a neutral facial expression, flat vocal affect, and minimal hand gestures. Manipulations of the confederate's vocal paralingual cues, including rate, frequency (pitch), intensity (loudness) were based on work by Scherer and colleagues (Scherer, 1986; Pittam & Scherer, 1993, Scherer et al., 1991, all as cited in Knapp et al., 2014). Manipulations of his gestural cues were based on Montepare and colleagues' (1999) descriptions of gestures associated with positive and negative emotions.

II. Participants

102 students taking *Introduction to Psychology* participated in this study for research credit for the course. Due to suspicion, data from 17 participants were eliminated following a debriefing process and prior to the commencement of data analysis. Data from an additional 3 participants were eliminated prior to any analyses being run due to experimenter error or erratic behavior on the part of a participant. Participants whose data were eliminated were evenly distributed across four conditions of verbal and nonverbal emotional expression, with 5 of these participants assigned to the first condition (low verbal-low nonverbal), 4 assigned to the second condition (low verbal-high nonverbal), 4 assigned to the third condition (high verbal-high nonverbal), and 4 assigned to the fourth condition (high verbal-low nonverbal). This left a final dataset of 82 participants (44 women, 4 gender unreported). *Introduction to Psychology* students are an ideal population within which to study relationship initiation because they are often new to the university and are more likely to be looking to form new friendships and relationships than other populations might be. Participants ranged in age from 18-23 years old ($M = 19.14$; $SD = 1.21$), with 3 participants declining to report their age. Participants were given the option to select any ethnic and racial designations that applied to them from a list, allowing them to select

more than one option if desired. 41.5% of participants identified as Caucasian, 22% of participants identified as Asian, 19.5% of participants checked more than one option to identify their ethnicity, 4.9% of participants identified as Hispanic, 4.9% of participants identified as two or more races, 4.9% of participants marked their race as “other,” and 2.4% of participants identified as African American.

III. Procedure

When participants arrived at the lab, they took a seat in the waiting room. With them in the waiting room is the ostensible “other” participant (the confederate). The experimenter brought the participant and the confederate into a room, told them they would be completing a study on “task performance,” and administered a consent form. Following the consent process, the experimenter brought the participant into a private room and told them that both the participant and the confederate would fill out some background information as a way to introduce themselves to one another since they would be participating in the study together. The background information form (see Appendix F) asked participants to report on their hometown, birthday, expected year of graduation, relationship status, and interest in forming new relationships or friendships.

Once participants had filled this out, the experimenter collected the form and used it to fill out the confederate’s background information form, which is where were able to create, for all participants, a desire for and expectation of a relationship with the confederate. To do this, the experimenter indicated on the confederate’s form a birthday that was two days away from the participant’s birthday as well as a graduation year that was the same as the participant’s to create a feeling of similarity with the confederate. Previous research (Walton et al., 2012) has illustrated that inspiring feelings of similarity using related paradigms of birthday matching

causes greater liking for and affiliation with the matched individual. To make the confederate even more appealing as a potential relationship partner, the confederate's background form indicated that he is very interested in forming new friendships or relationships (circling a 6 on the 1 to 7 scale). This was reinforced by the confederate writing "I am definitely interested in meeting new people right now and forming new friendships and relationships" as well as by the confederate indicating his relationship status as single (see Clark & Mills, 1979, for a similar manipulation). These procedures were utilized, as they had been previously, to increase the chances that participants would have an interest in forming a relationship with the confederate across all conditions. As highlighted above, I did believe that, on the whole, undergraduates participating in this study, many of whom are new to the university, would be open to and interested in forming a new relationship with another ostensible peer student. These procedures were specifically designed to augment the chances that this interest in and potential for a relationship developed. In the absence of openness to a new relationship, expressions of emotion and their exposure of vulnerability might backfire and might make the other person seem too forward or even inappropriate.

The experimenter then returned to the participant with the confederate's background form to review. The experimenter told the participant that this study was designed to allow the study designers to examine how videotaping affects speech performance. Next, the experimenter told the participant that they had been assigned randomly to be the evaluator while the confederate had been assigned to be the speaker. The participant was told that the speaker would be giving two speeches and that the evaluator would make evaluations on these after they had been recorded. Then, the experimenter told the participant that the participant and the confederate would work together on a third task to make judgments on another speech recorded by someone

else. This was meant to lead the participant to think there was potential for future interaction and cooperation with the confederate. The experimenter then left the participant to review the confederate's background information form while the experimenter ostensibly went to help the confederate complete the first speech task.

After several minutes, the experimenter returned with the recording of the speech and instructed the participant to watch the clip. The experimenter then left the room so as to continue to remain blind to condition assignment. The experimenter then returned after several minutes to direct the participant to fill out a survey of their evaluations of the speaker and of the speech they just gave. These questions included our main dependent variables of interest, including how much the participant liked and trusted the confederate and how much the participant perceived the confederate to like and trust them, as well as filler questions about features of the speech, including the speaker's tone and rate of speech (see Appendix G).

Next, the experimenter returned and told the participant that the confederate would now have ten minutes to prepare for their second speech. This speech would be on painters of the modern art era, a topic supposedly chosen because of its obscurity and narrow scope to encourage "speakers" to do research prior to giving the speech. This topic was also chosen because I presumed that the typical college student may not know much about this topic, which might motivate participants to do research on the topic to help out the confederate if the nervousness expression manipulation compels them to do so. The participant was told that, because they as the evaluator had extra time while the confederate is preparing, they could choose to do online research to help the confederate and email links to him that might be useful in the confederate's preparations during those ten minutes. The participant was told that they could also use this time to just check their email or to use the computer for other personal use.

After ten minutes had elapsed, the experimenter returned and asked the participant to complete a final questionnaire, which consisted of demographic questions asking about the participant's gender identity, age, and ethnicity, as well as a few manipulation check questions, including an item asking how nervous the participant perceived the confederate to be (see Appendix H). Once participants had completed this questionnaire, the experimenter returned and told them the study had concluded and walked them through debriefing.

To assess helping behavior, the experimenter counted and recorded both the number of relevant websites that the participant visited (through the browser history) as well as the number of relevant websites the participant emailed to the confederate. In addition to this primary dependent variable of help, I was also interested in other ways that verbal and nonverbal expressions of nervousness might differentially impact perceptions of an interaction partner in this relationship initiation context. To that end, I also measured the extent to which the participant perceived the confederate to like and trust them, how much they liked and trusted the confederate, and how interested they were in a future relationship with the confederate. These questions were all asked in the first questionnaire assessing the confederate's speech and speaking style.

Results

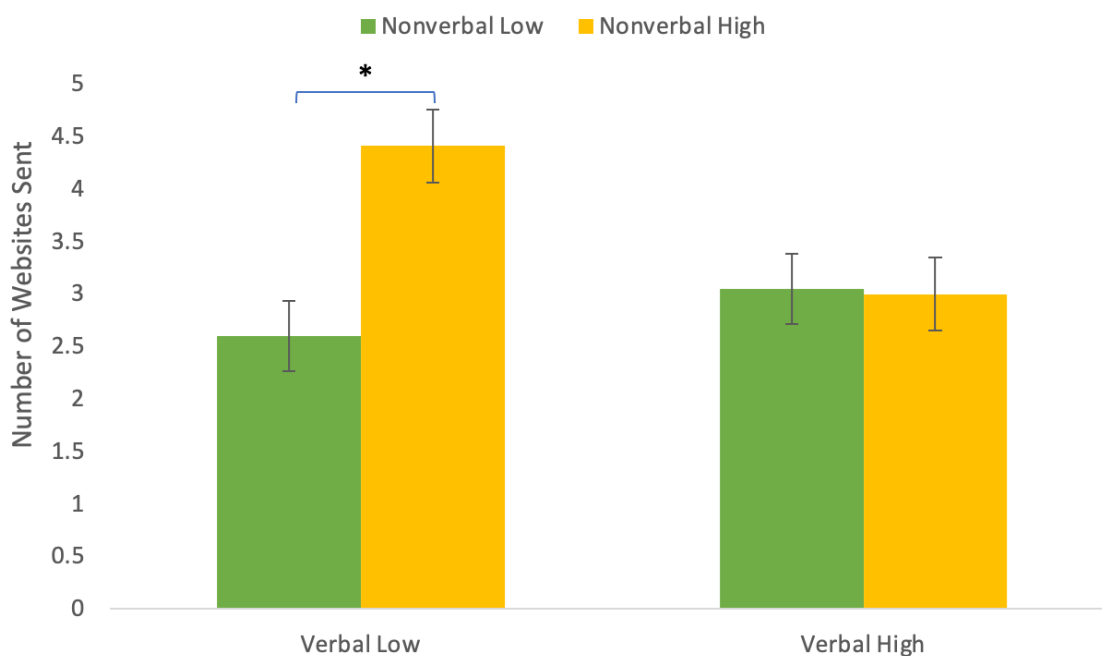
Random assignment was effective for this experiment, and the distribution of participants across the four conditions was roughly equal (21 participants saw the Verbal Low-Nonverbal Low video, 22 participants saw the Verbal Low-Nonverbal High video, 19 participants saw the Verbal High-Nonverbal High video, and 20 participants saw the Verbal High-Nonverbal Low video). Levene's test for violations of homogeneity of variance did not approach significance for any of the analyses that were performed.

I. Help given to the expresser

To test whether verbal and nonverbal expressions of nervousness influence amount of help given to an expresser (in the form of websites researched and actually sent to the expresser), I conducted a 2(Verbal: Low, High) x 2(Nonverbal: Low, High) between subjects Analysis of Variance (ANOVA) on number of websites sent. There was not a significant interaction between verbal and nonverbal emotional expression on number of websites sent (although it was marginally significant), $F(1,78) = 3.66, p = .059$. Intriguingly, planned pairwise comparisons revealed that when verbal expression is low, participants were significantly more likely to help the expresser when nonverbal was high ($M = 4.41, SD = 3.32$) than when nonverbal was also low ($M = 2.60, SD = 1.31$), $F(1,78) = 6.33, p = .014$. However, when verbal expression was high, participants were not significantly more willing to help the expresser when nonverbal expression was low ($M = 3.05, SD = 1.86$) compared to when nonverbal expression was also high ($M = 3.00, SD = 2.02$), see Figure 20, $F(1,78) = .01, p = .95$. These effects were unexpected and surprising, and although the overall interaction was not significant, the significant pairwise comparison does fit with some of our theorizing about reactions to emotional expressions in new relationships, as will be described with more depth in the discussion. The main effect for verbal expression was not significant, $F(1,78) = 0.99, p = .323$. Additionally, the main effect for nonverbal expression was not significant, $F(1,78) = 3.31, p = .073$.

Figure 20

The Impact of Verbal and Nonverbal Expressions of Nervousness on Help Given to the Expresser



II. Help considered for the expresser

Although actual help received was the primary dependent variable of interest, I also assessed and made predictions about a number of other highly relevant dependent variables of interest. To investigate whether verbal and nonverbal emotional expressions might impact the amount of help the participant *considered* providing to the expresser, I conducted a 2(Verbal: Low, High) x 2(Nonverbal: Low, High) between-subjects ANOVA on number of relevant websites looked up (based on browser history). Intriguingly, there was no significant interaction between verbal and nonverbal on help considered, $F(1,78) = 0.02, p = .878$. Because I did not have specific predictions about the amount of help considered for the expresser (in contrast to my specific predictions about help actually provided), I did not plan out specific comparisons to break down an interaction that is not significant.

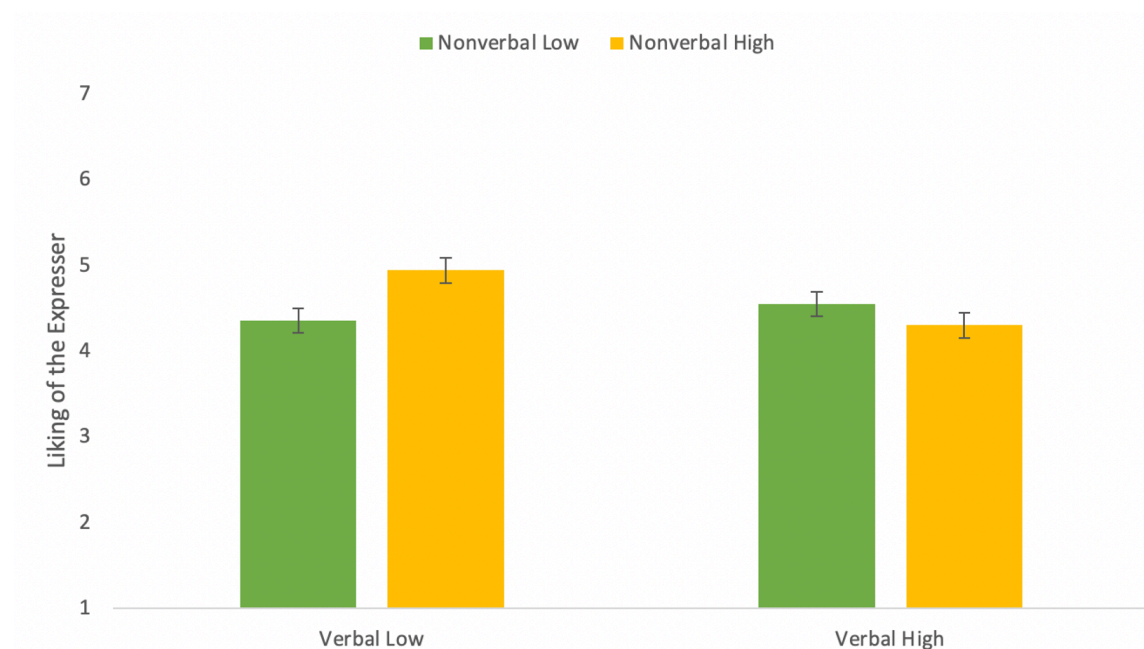
There were also no significant main effects of verbal expression, $F(1,78) = 1.63, p = .206$, or nonverbal expression, $F(1,78) = 0.07, p = .795$.

III. Liking of the expresser

Next, I examined the effect of verbal and nonverbal emotional expression on the amount the participant liked the expresser by conducting a 2(Verbal: Low, High) x 2(Nonverbal: Low, High) between-subjects ANOVA on liking ratings. Intriguingly, there was a marginally significant interaction of verbal and nonverbal expression on liking, $F(1,78) = 4.15, p = .045$, see Figure 21. Planned pairwise comparisons revealed that when verbal expression was low, participants liked the expresser marginally more when nonverbal expression was high ($M = 4.94, SD = 1.09$) compared to when nonverbal expression was low ($M = 4.35, SD = 0.99$), $F(1,78) = 3.81, p = .055$. However, when verbal expression was high, participants did not like the expresser significantly more when nonverbal expression was low ($M = 4.55, SD = 0.60$) compared to when nonverbal expression was high, ($M = 4.30, SD = 0.97$), $F(1,78) = 0.78, p = .38$.

Figure 21

The Impact of Verbal and Nonverbal Expressions of Nervousness on the Expresser's Likability



There was no significant main effect on liking of either verbal emotional expression, $F(1,78) = 1.17, p = .283$, or nonverbal emotional expression, $F(1,78) = 0.73, p = .39$. Notably, the pattern for liking of the expresser mirrored the pattern for actual helping.

IV. Trust in the expresser

To assess how much the participant trusted the expresser, I conducted a 2(Verbal: Low, High) x 2(Nonverbal: Low, High) between-subjects ANOVA on ratings of trust in the expresser. There was no significant interaction of verbal and nonverbal emotional expression on trust, $F(1,77) = 0.33, p = .568$. Planned pairwise comparisons revealed that when verbal emotional expression was low, participants did not trust the expresser more when nonverbal expression was high ($M = 4.35, SD = 1.41$) than they did when nonverbal expression was also low ($M = 3.80, SD = 1.64$), $F(1,77) = 1.31, p = .255$. Further, when verbal expression was high, participants did not

trust the expresser more when nonverbal expression was also high ($M = 4.13$, $SD = 1.49$) than they did when nonverbal expression was low ($M = 3.95$, $SD = 1.28$), $F(1,77) = 0.16$, $p = .688$. Additionally, there were no significant main effects on trust of verbal emotional expression, $F(1,77) = 0.01$, $p = .915$, or of nonverbal emotional expression, $F(1,77) = 1.25$, $p = .267$.

V. Perceptions of the expresser's liking of the participant

To investigate how verbal and nonverbal emotional expression might impact the extent to which the participant *perceives that the expresser likes them*, I performed a 2(Verbal: Low, High) x 2(Nonverbal: Low, High) between-subjects ANOVA on perceptions of the expresser's liking. There was no significant interaction between verbal and nonverbal emotional expression on perceived liking, $F(1,78) = 0.27$, $p = .608$. Planned pairwise comparisons revealed that, when verbal expression was low, participants did not perceive the expresser to like them less when nonverbal expression was also low ($M = 3.75$, $SD = 1.02$) compared to when nonverbal expression was high ($M = 3.94$, $SD = 1.03$), $F(1,78) = 0.35$, $p = .556$. When verbal expression was high, participants also did not perceive the expresser to like them less when nonverbal expression was low ($M = 3.77$, $SD = 0.97$) compared to when nonverbal expression was also high ($M = 3.74$, $SD = 0.92$), $F(1,78) = 0.013$, $p = .909$.

Additionally, there were no significant main effects of verbal emotional expression on perceived liking, $F(1,78) = 0.17$, $p = .682$, or of nonverbal emotional expression on perceived liking, $F(1,78) = 0.13$, $p = .719$.

VI. Perceptions of the expresser's trust in the participant

To examine how verbal and nonverbal emotional expressions affected a participant's *perceptions of how much the expresser trusts them*, I conducted a 2(Verbal: Low, High) x 2(Nonverbal: Low, High) between-subjects ANOVA on perceptions of the expresser's trust.

There was no significant interaction between verbal and nonverbal emotional expression on perceived trust, $F(1,78) = 0.11, p = .739$. Planned pairwise comparisons revealed that when verbal emotional expression was low, participants did not think the expresser trusted them less when nonverbal expression was also low ($M = 3.40, SD = 1.28$) compared to when nonverbal expression was high ($M = 3.71, SD = 1.36$), $F(1,78) = 0.54, p = .465$. When verbal expression was high, participants also did not think that the expresser trusted them less when nonverbal expression was low ($M = 3.27, SD = 1.20$) compared to when nonverbal expression was also high ($M = 3.39, SD = 1.23$), $F(1,78) = 0.10, p = .753$.

Additionally, there were no significant main effects on perceived trust of verbal emotional expression, $F(1,78) = 0.62, p = .43$, or of nonverbal emotional expression, $F(1,78) = 0.57, p = .45$.

VII. Desire for future friendship or relationship

To assess how verbal and nonverbal emotional expressions might influence the extent to which the participant desires to pursue a future relationship or friendship with the expresser, I conducted a 2(Verbal: Low, High) x 2(Nonverbal: Low, High) between-subjects ANOVA on ratings of interest in a future friendship or relationship. Again, there was no significant interaction between verbal and nonverbal emotional expression on reported interest in a future relationship with the expresser, $F(1,78) = 3.59, p = .062$. Planned pairwise comparisons revealed that, when verbal emotional expression was low, participants did not desire a future relationship less when nonverbal expression was also low ($M = 4.25, SD = 0.85$) compared to when nonverbal expression was high ($M = 4.82, SD = 1.29$), $F(1,78) = 2.36, p = .128$. When verbal expression was high, participants did not desire a future relationship significantly more when

nonverbal expression was low ($M = 4.73$, $SD = 1.12$) compared to when nonverbal expression was high ($M = 4.35$, $SD = 1.23$), $F(1,78) = 1.27$, $p = .264$.

There were also no significant main effects on relationship interest of verbal emotional expression, $F(1,78) = 0.00$, $p = .998$, or of nonverbal emotional expression, $F(1,78) = 0.15$, $p = .701$.

VIII. Perceptions of the expresser's nervousness

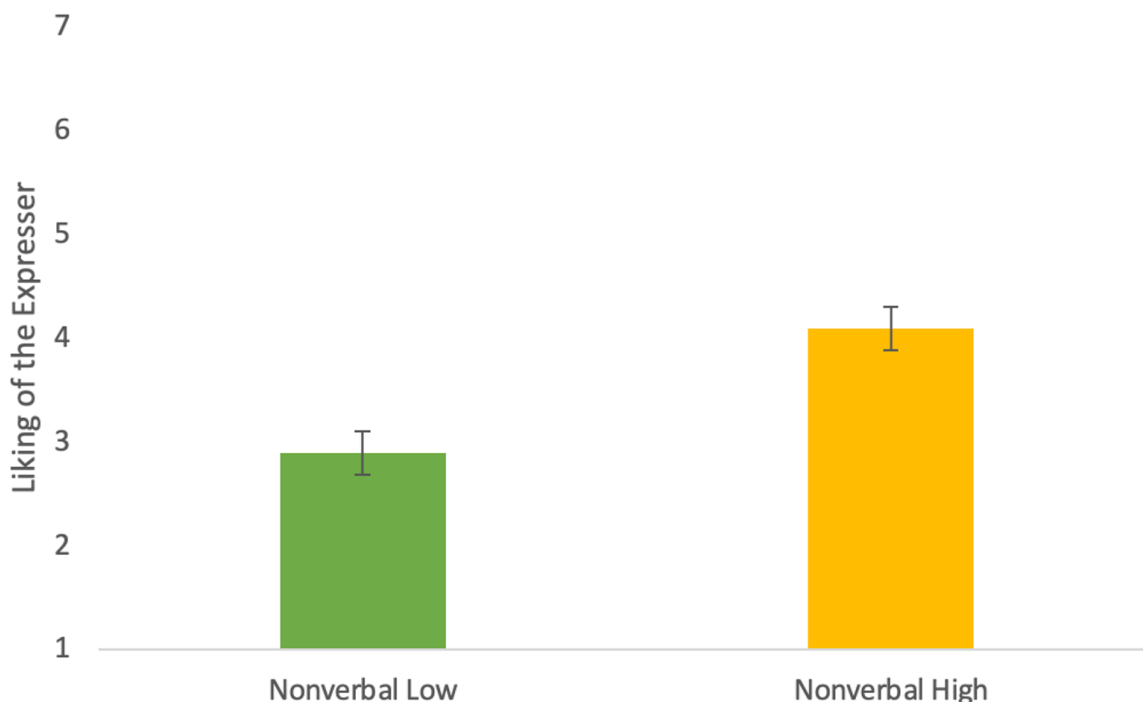
As both a check on our manipulation as well as a follow up to earlier results (Armentano, & Clark, in preparation) suggesting that verbal and nonverbal emotional expressions may differentially influence overall perceptions of emotion, I asked participants to indicate to what extent they thought the confederate was expressing nervousness. This item came at the end of the study and just prior to the demographic questions. Based on the aforementioned previous results, I anticipated that there would be a main effect of nonverbal expression, such that more nervousness would be perceived in conditions where nonverbal expression was high compared to when it was low.

To examine whether verbal and nonverbal emotional expressions might affect the extent to which the expresser was viewed to be expressing emotion, I performed a 2(Verbal: Low, High) x 2(Nonverbal: Low, High) between-subjects ANOVA on ratings of the expresser's nervousness. There was no significant interaction of verbal and nonverbal emotional expression on perceived nervousness, $F(1,77) = 3.22$, $p = .077$. There was also no significant main effect of verbal emotional expression on perceived nervousness, $F(1,77) = 1.44$, $p = .234$. However, as predicted, there was a significant main effect of nonverbal emotional expression on perceptions of nervousness, $F(1,77) = 13.21$, $p < .001$, see Figure 22. Participants rated the expresser as more nervous when the expresser expressed more emotion nonverbally ($M = 4.10$,

$SD = 1.50$) compared to when the expresser expressed less emotion nonverbally ($M = 2.90$, $SD = 1.27$).

Figure 22

The Impact of Different Amounts of Nonverbal Expression on Liking of the Expresser



Discussion

This study allowed me to examine how emotional expressions of nervousness can be manipulated to influence perceptions of the expresser as well as behavior towards that expresser (here in the form of helping). This is a meaningful way of thinking about the direct impact that emotional expressions may have on relationship initiation. In this study, participants had an opportunity to interact with and evaluate a confederate who was introduced as another participant. The participant and the confederate did not know each other, but the participant was encouraged to see the potential for a future relationship with the confederate through our manipulation of perceived similarity, the confederate's relationship status, and the confederate's

stated interest in developing new relationships. This paradigm allowed me to examine these impacts within the relational context of strangers who are faced with the potential to pursue future interactions with one another and even to develop a future relationship- a context we often encounter.

However, this is also a unique relational context that is distinct from the close, established relational context examined in the previous chapters. As new and developing relationships are the only type of relationship where it is ethical to manipulate verbal and nonverbal emotional expression to examine causal relationships between emotional expression and features of the relationship, I am limited to studying these causal links outside of the context of established intimate relationships. However, it is also intriguing to consider how verbal and nonverbal emotional expressions might impact relationship development in a newly initiated relationship and to understand how these processes might differ across these relational contexts.

In a developing or newly initiated relationship, one likely has different sets of expectations regarding what is appropriate behavior as well as different expectations of responsiveness compared to those within established relationships (Beck & Clark, 2010; Clark & Taraban, 1991). In relationship initiation, each person is focused on processes that will allow that person to both remain protected from the other person's potential judgement or rejection but also to test out how the other person will be as a relationship partner. This process also involves each person presenting themselves strategically as a good potential partner (Beck & Clark, 2010). Given these specific motives and perspectives, it is logical that participants in our study who are placed in a relationship initiation context would react differently from couples in established relationships.

I initially predicted, after underestimating the importance that stage of relationship could play in influencing reactions to emotional expressions, that participants who viewed an expression of nervousness that is high in verbal expression would report that the expresser likes and trusts them more than those who viewed the low verbal expression. I also thought viewing more verbal expression (compared to less) would lead a participant to desire more of a future relationship and to provide more help. I also thought that greater emotional expression (regardless of channel) would lead to participants liking and trusting the expresser more than would less emotional expression.

What I found was surprising and doesn't fit well with my predictions but does fit well with an understanding of how partner evaluations might occur early on in relationship initiation. When nonverbal expression of nervousness was low, participants are not providing much help to the confederate in the form of useful websites to prepare for their next speech, and there is no difference in the amount of help they provide based on whether the confederate expresses his nervousness verbally or not. However, when nonverbal was high, participants were significantly more likely to help the confederate when verbal was *low* compared to when verbal was high. Again, I had anticipated that higher verbal expression would signal greater willingness to be vulnerable and greater clarity about one's needs and desires, which I anticipated would, in turn, promote greater helping behavior from a perceiver.

Relatedly, I also found that there was a marginally significant interaction of verbal and nonverbal expression on how much the perceiver liked the expresser, such that the confederate was liked more (although this was only marginal) again when verbal is low and nonverbal is high. Even though this result is not significant by conventional standards, it is in the same direction as the significant effect for help given. Thus, it further supports the idea that there is

something distinctive about an expresser sharing nervousness nonverbally without an accompanying verbal declaration that makes them more likable and more deserving/needing of help.

This result could be explained by individuals acting in ways that are self-protective during relationship initiation (Beck & Clark, 2010). Perhaps there is an expectation in a newly initiated relationship context (in this study, it was even closer to a stranger context) that a verbal expression of emotion would be inappropriate and that this clear, direct signal for help is not desired in this relational context. Indeed, Clark and Taraban (1991) find that in contexts where exchange norms (Clark & Mills, 1979) are expected and desired, including stranger contexts and likely newly initiated relationship contexts, participants like others more when they express *less* (compared to more) emotion. Additionally, participants interacting with strangers (with whom they expect to have some interaction) and expecting exchange norms to operate are also less likely to discuss emotional topics compared to participants interacting with established relationship partners and expecting communal norms. Based on these findings, it seems likely that we do not anticipate strangers or new relationship partners to express much emotion and indeed we react negatively to it when they do. Although Clark & Taraban (1991) did not manipulate the channel of emotion expressed, it is logical based on our theorizing to posit that verbal expression, because it reveals vulnerabilities and involves putting oneself out there undeniably, might be perceived as less appropriate and less desirable in this context. A related explanation may be that this verbal expression of negative emotion from a new relationship partner is an unexpected deviance from typical relationship initiation processes, which perceivers may react to negatively because of a general aversion to pattern deviancy (Gollwitzer et al., 2017).

There may also be something unique about the expression of *negative* emotion in this initiation context. There is evidence that individuals carry ideals about both the types of partners as well as the types of relationships they desire, which generally include dimensions such as warm, friendly, and outgoing (Fletcher et al., 1999). These dimensions may be especially salient when we are first encountering a potential relationship partner and making an initial judgment about their suitability. A direct, verbal articulation of negative emotion may be out of sync with those ideal characteristics. Indeed, work on the omnipresence of a positivity bias within language (Dodds et al., 2015) suggests that we might be most accustomed to hearing an expression of positive emotion through the verbal channel, particularly when there is a lack of relational history between the individuals.

An additional potential explanation for this perplexing finding could lie in the perceived gender of our confederate, a presumably college-age man. Gender stereotypes of emotion expression suggest that individuals believe that men both experience and express less emotion (with the exception of anger and pride) than women do (Plant et al., 2000). Seeing a man openly expressing nervousness, particularly through the verbal channel, may be contrary to participants' gender role expectations and stereotypes, which may make this verbal expression unexpected and off-putting.

Intriguingly, it also appears that verbal expression is not influencing perceptions of whether the expresser is demonstrating an emotion, as evidenced by the finding that perceivers rate more nonverbal expression (but not more verbal expression) as indicating more nervousness. Together these results indicate that, in a relationship initiation context, verbal emotional expressions may not only be counter-productive for producing helping and liking, but they may even be failing to trigger perceptions that an emotion is being expressed.

General Discussion

Emotional expressions are omnipresent. In fact, as a mentor once told me, “we cannot ever be *not* expressing emotion.” Our daily encounters with emotional expressions might range from seeing images of people smiling or crying in news media or advertisements to sharing our emotional experiences with a close relationship partner. Understanding and appropriately responding to this constant deluge of emotional expressions is key to our functioning as highly social beings with a basic desire to form functional, cooperative close relationships with people we care about (Baumeister & Leary, 1995).

In fact, the context of these close relationships we are so driven to form is where we experience, express, and encounter the most emotion, and perhaps where we experience and express the most impactful emotion (Rimé, 2009; Von Culin et al., 2017). Given that this context is the dominant one for our emotional lives and that emotion is very important to the functioning of these close relationships (e.g., Allen et al., 2012; McKinnon & Greenberg, 2017; Weigel, 2008), it is vital that we fully understand the ways that emotions are expressed in these relationships. Beginning to understand the ways that emotions are expressed in high-functioning close relationships and how the different channels of emotional expression may serve unique functions in building those relationships was the primary aim of this dissertation.

In this dissertation, I examined the verbal and nonverbal emotional expressions of both highly satisfied romantic couples and of individuals at a point of potentially initiating a relationship to begin to describe how expression through the different channels occurs within these relational contexts as well as how the channels may serve different functions in initiating and in maintaining close relationships. This is an important endeavor because it allows us to directly examine the emotional processes that are occurring within these relationships on a daily

basis and to learn more about how these processes unfold as well as how they contribute to the healthy growth of those relationships.

I. Contributions

This dissertation began with a theoretical framework for understanding the potential functions of verbal and nonverbal emotional expressions in close relationships that was developed to bridge gaps between existing literature in the fields of relationship science and the study of emotion expression more broadly. I then built off of that framework in a series of three empirical chapters to explore these verbal and nonverbal expressions and their corresponding functions in the context of actual relationships.

First, I began by looking both at how verbal and nonverbal expressions of emotion are perceived by those within and outside of the relationship. I found that, across both positive and negative discussions, both expressers and perceivers in the relationship were typically in some agreement with one another about how much an expresser shared verbally and nonverbally. The degree of agreement between expressers and perceivers was modest, but this agreement was more reliably found than was agreement between expressers or perceivers and coders. This suggests that relational history is important for interpreting emotion. Further, I also found evidence for partners matching each other's emotional tenor (especially how positive or negative the expression is) within discussions, which provides some new support for emotional interdependence occurring in this context, in contrast to recent mixed findings by Sels and colleagues (2020).

I then examined how verbal and nonverbal emotional expression within these every day, naturalistic conversations might be perceived by both partners to be intentional, indicative of vulnerability, and genuinely sincere. As I had anticipated, I found support for greater verbal

emotional expression to be perceived, by both the expresser and by the perceiver, as more intentional. This suggests that verbal emotional expressions are seen as deliberate, consciously chosen articulations of an emotion that invite a response from the perceiver. Also as predicted, I found that greater nonverbal emotional expression, as perceived by both the expresser and the perceiver, was seen as more genuine and sincere as compared to lower amounts of nonverbal expression. The finding that greater nonverbal expression is seen as more sincere fits with the idea, stemming originally from the deception literature (e.g., ten Brinke & Porter, 2012) that nonverbal expressions are an indication of the true emotion. Intriguingly, though, I also found that greater verbal emotional expression is also linked with greater perceptions of being genuine and sincere. This also contrasts with work from the deception literature that suggests that verbal expressions are less believable and sincere than nonverbal expressions are. Taken together, these results indicate that expressing emotion, in any form, to a close relationship partner with whom one has a high degree of satisfaction and commitment, is seen as an honest and genuine articulation of feeling that can be believed.

Given these findings, one could think that verbal emotional expressions, because they convey that an emotion is intentionally and sincerely expressed in anticipation of a response from a close relationship partner, might be closely linked to responsiveness (here, communal strength) in the relationship, trust in the partner, and commitment to the relationship. In the next chapter, I find first that there is some evidence that an expresser's communal strength towards their partner predicts their own self-reported verbal emotional expressiveness. Given that I also find consistent evidence, in parallel to work by Lemay and colleagues (2008), that expressers project their own communal strength onto their partners, this result indicates that expressers who

feel more responsive to their partners, and who also then perceive their partners to be more responsive towards them, believe they express more emotion verbally.

Similarly, I find that expressers who trust their partner more, as well as expressers who are more committed to their partners, also report expressing more emotion verbally (and that partners and objective coders also, at times, make similar reports). Contrary to my predictions, but perhaps unsurprisingly, there is also some evidence that expressers who trust their partners more also express more emotion nonverbally. There is likely bidirectionality at play in these results, in that trust in one's partner creates safe opportunities to express more emotion across channels, and trust also likely builds after one has expressed emotion verbally or nonverbally, assuming that the partner reacts to those expressions with responsiveness. Taken together, these results provide clear evidence that emotional expression, particularly verbal expression, is linked to characteristics of the relationship that are crucial to building and maintaining a healthy close relationship.

Up to this point, these results have demonstrated that verbal and nonverbal emotional expressions are perceived to have different (but interactive and overlapping) roles in building close relationships, but I have not gone beyond these perceptions to examine how these channels of expression influence actual behavior. In the final study, in which I switch to an experimental paradigm and to studying the effects of expression within the relationship initiation process, I did not find clear evidence that verbal and nonverbal expressions of nervousness interact to influence how much help is given to an expresser nor how much a perceiver likes an expresser in the course of an interaction between two partners who might initiate a relationship. Despite this, I did find a hint that, during relationship initiation, the most help might be given when verbal

expression is relatively absent but nonverbal expression is high, and that this same combination may inspire greater liking as well.

These results are intriguing given the prior results from the dyadic study of romantic couples that verbal expressions convey that an emotional expression is intentional and sincere. However, it is useful here to consider the two studies together and to more deeply explore how their results diverge and converge. That verbal expressions are perceived as intentional and sincere and are linked to positive relational outcomes in romantic dyads while these same kinds of verbal expressions lead to less liking and less helping behaviors in a context where two individuals only have the potential of a relationship underscores the importance of relational context in understanding emotion. In this final study, the participant was viewing the expression of another person with whom they only had the potential to build a relationship. Perhaps in the context of a new relationship, the roles of verbal and nonverbal expression are very different, and verbal expression may feel too extreme and off-putting from someone you just met. In this context, it may be more appropriate for an expresser whom you have just met to share their nervousness only nonverbally. A purely nonverbal expression of nervousness does not put too much pressure on you as the perceiver to respond supportively so early in the potential relationship. On the other hand, if the expresser shared that nervousness more explicitly through the verbal channel, it might create or amplify that pressure to respond. In this context, the reliance may be on nonverbal cues to guide behavior and perceptions, as indicated by participants rating nonverbal expression as most indicative of nervousness. However, in the context of an established, highly satisfied romantic relationship, like those examined in the dyadic studies presented earlier in the dissertation, verbal emotional expressions may be more expected and may therefore be deemed more appropriate. The increased desire for and

reasonableness of verbal expressions in this close relationship context may then allow for those types of expressions to serve more of their full functionality, including communicating the expresser's needs and giving the perceiver permission and guidelines for responding to those needs.

If we consider the results concerning nonverbal emotional expressions, the findings appear to converge with one another better, suggesting that nonverbal emotional expressions might serve similar functions across these different relational contexts. In the dyadic study, we see that greater nonverbal emotional expressivity is associated with perceptions that an expression is sincere and genuine, and we also see that expressing emotion nonverbally is positively associated with beneficial relationship outcomes such as trust in the partner and responsiveness. In parallel, the evidence from the experimental study indicates that greater nonverbal emotional expression of nervousness, perhaps because it is seen to be sincere and it has the potential to engender trust between the expresser and the perceiver, contributes to greater helping behavior and increased liking of the expresser. Maybe there is a general function of nonverbal emotional expressiveness (at least in these contexts where there is a positive relationship or potential relationship; this function may not apply in an adversarial context) in communicating a genuinely felt emotion and creating an opportunity for partners to build trust and to create or maintain a relationship through correspondingly responsive behaviors.

In sum, this dissertation provides evidence that partners often show moderate agreement with one another about how much emotion one of them is expressing and that they express emotion in similar amounts when discussing emotional topics in a naturalistic setting in the lab. Further, it demonstrates that these couples are viewing verbal expressions to be linked with an expresser being intentional and sincere and nonverbal expressions to be linked with an expresser

being sincere. These perceptions of the roles the channels may play help explain why we see some evidence that verbal expressions (and to a lesser extent, nonverbal expressions) are linked to responsiveness, trust, and commitment in the relationship. Finally, the relational context is important, as we see that nonverbal expression inspires more liking and more helping behavior when the relationship is just beginning than does verbally expressed emotion, whereas the same is not true in established close relationships.

Although the results that I presented in this dissertation are complex and do not lend themselves to clean takeaways about the functions that verbal and nonverbal emotional expressions serve in building and maintaining high-functioning, satisfied relationships, the process of conducting this dissertation has influenced my intuitions about the functions each channel serves. After the process of gaining enough expertise to complete this dissertation, I hope that my updated intuitions stem from patterns I have observed along the way, even if I cannot identify a source for my intuitions within the data (Kahneman & Klein, 2009).

My main intuition about the roles of verbal and nonverbal emotional expressions in close relationships remains that they do serve distinct, but likely highly overlapping and interactive functions, for building relationships. I do not believe that one channel can be completely substituted for another or that the channels communicate the same emotional, relationally diagnostic, or informational content, as some scholars purport (Van Kleef, 2017). However, I think that the specific functions that these channels serve have been difficult to pinpoint because of base rate differences in the extent to which each channel is employed in the course of typical emotional discussions. A primary intuition I have gleaned from this research, which parallels some findings from Planalp and colleagues (1996) is simply that direct, explicit verbal emotional expressions are likely to be infrequent within a close relational context. This signals to me that

these kinds of verbal expressions are likely to be infrequent in most relational contexts (both close and less close relationships), particularly given evidence that our close relationships are the contexts within which we express the most emotion (Rimé, 2009; Von Culin et al., 2017). When I began this program of research, I believed that direct verbal declarations of emotion occurred with the same frequency within high functioning relationships as did nonverbal expressions. Perhaps this was based too strongly on my own anecdotal experience as someone who expresses a significant amount of emotion through the verbal channel, or perhaps this was because of exposure to various media where this occurs. Or perhaps I was basing this on some knowledge of therapeutic techniques, such as those which I have now learned are employed within Emotion-Focused Couples Therapy (McKinnon & Greenberg, 2017), that teach individuals and couples to express their emotions through direct verbal means in order to maximize responsiveness from a partner and also to ensure that one feels they are leading an emotionally fulfilled life where one is in touch with and openly identifying their emotions for themselves and others.

While I still hold the same intuitions about the benefits of expressing emotion verbally and about the value that these expressions may have for building close relationships, I no longer speculate that these kinds of verbal expressions are being employed frequently within relationships. If it is the case that verbal emotional expressions are fairly rare, partners may be missing out on the potential benefits of sharing their emotional state with a partner through this channel. Namely, partners may be missing out on the ability to convey that they deliberately and intentionally want to share how they are feeling with their partner, which may, in turn, cause them to lose out on opportunities for these intentional expressions to help build trust and responsiveness within the relationship. The functions that verbal expressions could serve for growing close relationships are reinforced within the results presented in this dissertation, in

particular that verbal expressions may signal to both an expresser and a perceiver that the expresser is genuinely feeling the emotion and that they clearly want the perceiver to see (and, by extension, to respond appropriately) to that expression. I continue to intuit that these verbal expressions are both allowing the expresser and perceiver to fully comprehend and label the emotion being experienced by the expresser and that they are granting the perceiver permission and a roadmap to respond to the emotion.

That being said, if verbal emotional expressions are being infrequently employed, as I now suspect is the case, their value may change. Rather than being an everyday signal of a genuine, deliberate articulation of emotion, a direct verbal expression may become a salient indicator that the expresser is seeking more help or more responsiveness from the perceiver than they are currently receiving. Verbal expressions, while a symbol of potential vulnerability, may also be seen as a marker of needs going unmet and a direct ask for the perceiver to respond in a way that is more helpful and more supportive than they currently are. This idea does assume that expressers are consistently sharing their needs through direct verbal expressions once those needs reach a certain threshold of importance, and that these thresholds (along with the willingness to share) likely varies between individuals. Nevertheless, it seems likely that verbal expressions are perceived to be even more intentional, deliberate, and warranting of a response than I had originally expected.

Turning to the functions of nonverbal emotional expressions, my intuitions about the role that these types of expressions play remains largely the same. As when I embarked upon this research program, I continue to believe that nonverbal expressions of emotion signal that an emotion is genuinely felt and provide the perceiver cues as to how intensely the emotion is experienced. However, what has changed is my intuition about the importance of these

expressions for building relationships. Contrary to my predictions before embarking on this project, I now believe that nonverbal expressions serve a foundational role in building relationships and that the presence and types of these expressions are likely critical to the growth of relationships. In much the same way that the deception literature has emphasized the importance of relying on nonverbal expressions to communicate valuable information (Ekman & Friesen, 1969; ten Brinke & Porter, 2012), I now speculate that the high prevalence of nonverbal expressions when we are expressing emotion to a close relationship partner (one cannot *not* be expressing an emotion nonverbally) makes them centrally important to the perceiver's understanding of how the expresser feels and, possibly, to how the perceiver should react to those emotions. Interestingly, I expect that this becomes even more important as relationships develop over time, as we may gain stronger certainty that we "know" our partner more intimately and that we are able to decipher their nonverbal cues to emotion more readily, thus making it more likely that we pay closer attention to these cues and are more eager to act on them as the relationship deepens over time.

Although I now think it likely that expressers and perceivers use emotional cues from both verbal and nonverbal channels to piece together how the expresser truly feels and to share (from the perspective of the expresser) or understand (from the perspective of the perceiver) how the perceiver should respond to that emotion, I still believe that each channel has an inherently different function to serve for the relationship. While we may interpret emotional expressions holistically without always attributing specific functions to the different ways the emotion is expressed (or perhaps without even recognizing or remembering the different ways the emotion is expressed), these channels do seem to have some amount of differential value. Thus, we may still employ and interpret the channels (consciously or not) in unique ways.

I also now hold deeper intuitions about the various functions that verbal and nonverbal emotional expressions serve for the individual, the relationship, and the individuals' links to the broader world. It seems clear to me that emotional expressions allow individuals to better introspect and understand their personal needs and desires, but that they simultaneously serve the same functions for perceivers to understand the expresser's needs. This can benefit both the individual doing the expressing as they find their needs being met (by a responsive partner), but it can also strengthen the relationship as partners build trust, intimacy, and responsiveness through expressing and responding to needs (Simpson, 2007; Reis & Shaver, 1988). Further, emotions expressed within the relationship also may help to insulate the couple or the individuals from dangers in the broader world, and they may also help the individuals to grow in their relationships with other people. When we stop to consider the value of emotional expression in this close relational context, it is clear that there are a great many benefits to expressing emotion to a close partner with whom one is committed and satisfied.

II. Contextual Considerations

It is important to keep in mind the relational and societal contexts within which these data were collected when considering how to generalize and apply the empirical findings highlighted above. The samples collected for these studies, both for the dyadic dataset and for the experimental study, are fairly young, and both include high numbers of college and graduate students (with the experimental study sample consisting entirely of college students). As noted at the outset of the dissertation, the romantic couples recruited for the dyadic study were also in high-functioning relationships characterized by high satisfaction, commitment, and responsiveness. Taken together, these demographic and contextual features (both of the individuals and of the relationships) do constrain the generalizability of these results to similar

individuals and similar relationships. I do not have any specific reason to presume that there would be any differences in how college and graduate students might experience or express emotion (or, in the case of the experimental study, how they might perceive others' expressions of emotion) from other demographic groups. But there may be intriguing differences related to age, as work by Gross and colleagues (1997) provides evidence that older individuals report experiencing less negative emotion compared to younger individuals. The authors also find some mixed evidence that older individuals might express less emotion compared to those who are younger. Ideas drawn from Socioemotional Selectivity Theory might help to explain potential discrepancies across age groups, as Carstensen and colleagues (1999) assert that individuals shift their goal prioritization from knowledge acquisition to emotional management as they get older. This may have implications for these results, as attempting to replicate them within a sample of older adults may be more challenging if older individuals are less expressive and less able to engage with negative emotional topics because of reduced experience.

An additional socioecological contextual feature of these samples is that both the dyadic and experimental samples are drawn from the United States, a cultural context that tends to be characterized by high relational mobility for individuals in both romantic relationships and friendships (Kito et al., 2017). Relational mobility is a construct that describes the extent to which individuals within a given society or cultural context have the ability to select into and out of close relationships, both by forming new relationships and by dissolving detrimental ones (Kito et al., 2017; Schug et al., 2010; Thomson et al., 2018). Although there is evidence that relational mobility can also vary between individuals within one given culture (Schug et al., 2010), it is likely that most of the participants in this study considered their surrounding cultural environment to be characterized by relational freedom and a high degree of relational mobility.

This context could have important implications for the results presented in this dissertation, especially because there is evidence that individuals in high relational mobility environments disclose more about themselves to friends (Schug et al., 2010) and provide more social support to a close relationship partner (Kito et al., 2017) compared to those in low relational mobility environments. Kito and colleagues (2017) theorize that part of the reason for these seemingly counter-intuitive findings (especially given that cultures high in relational mobility also tend to be those that are high in rewarding and striving towards independence from others) is that high relational mobility creates greater pressure on relationship partners to build and maintain their close relationships. Because both partners have reasonable alternative partners available as well as the freedom to seek those partners with (potentially) minimal societal consequences, there is greater pressure on partners to maintain and deepen a currently functional and beneficial relationship or risk losing that relationship. Alternatively, in an environment characterized by low relational mobility, there is less motivation to invest in relationship building strategies such as social support, and more potential for negative consequences if one self-discloses vulnerabilities about the self to a judgmental or less responsive partner with whom one does not anticipate an option of future relationship dissolution.

I would then speculate, based on this prior literature, that evaluating these same kinds of emotional, disclosing discussions within a cultural environment characterized by low relational mobility might yield very different results. I would anticipate that individuals might express less emotion to their partner, particularly if that emotion is personally revealing and allows for the potential for negative evaluation from the partner. I would further anticipate that, regardless of how much emotion is expressed or how vulnerable the expressers feel they are, participants from a low relational mobility culture might feel more uncomfortable with the expressive tasks.

It is reasonable to presume, therefore, that the findings presented here might not extend to individuals in low relational mobility cultural environments. In particular, I might anticipate that individuals in those contexts characterized by low relational mobility might not perceive verbal or nonverbal emotional expressions to be high in sincerity because they may expect their partner to hide their true emotions in order to preserve the harmony of the relationship (Kito et al., 2017). Further, I would expect that individuals in a low relational mobility context might evaluate verbal emotional expressions as particularly revealing of vulnerabilities because of the potentially dramatic negative consequences of revealing vulnerabilities in a stable relationship that one does not anticipate being able to escape should the partner form a negative evaluation of one. I would also expect to not find any evidence of links between trusting the partner or being committed to the partner and emotional expression in a context that is low in relational mobility because these constructs are likely divorced from supportive relationship-building behaviors like emotional expressions. Whether or not one is committed to one's partner, and even how much one trusts one's partner to be available and reactive when needed (in a very practical sense) are likely based on more concrete constraints (such as economic stability, the presence of children, societal pressures, etc.) within these low relational mobility contexts than they are based on emotional needs and support.

III. Implications and Future Directions

There are a number of different implications of this work, including ones that are theoretical, methodological, and directly empirical. These implications lead to natural future directions for this work and for the work of other relationship scholars.

One primary implication of the work presented in this dissertation, one that is both theoretical and methodological, is that the context in which emotion is expressed is crucial to

understanding that emotion and its consequences. First, we see that the context of a new compared to an established relationship may fundamentally shift the roles that verbal and nonverbal expressions of emotion may serve. But there are other elements of relational context that may be at play as well, including how satisfied the couple is as well as what they are discussing. Unlike much prior work, which focused on conflict discussions (e.g., Gottman, 1980; Gottman et al., 1977; Noller, 1980), this work documented discussions of everyday topics. It could be that the reason that both verbal and nonverbal expressions demonstrate that an expresser is being sincere is because these couples are highly satisfied and discussing every day, non-threatening topics.

Perhaps in a different context or in different types of relationships we would see that only nonverbal expressions are relied upon to convey sincerity, as has been documented in the deception literature outside of a close relationship context (e.g., Ekman & Friesen, 1969). This should be further explored in other work. But, as is documented in this work, it may be that when you feel comfortable and trust in your partner is high, both verbal and nonverbal cues can convey that an expresser is being genuine. And perhaps trust only links with both channels of expression when discussing non-threatening topics that are not related to conflict in the relationship, although this should also be further explored.

It is also interesting to consider how *not* perceiving both channels of expression to communicate sincerity might be a harbinger of the degradation of a relationship. While I do not have evidence for this idea in this sample of highly satisfied couples, it is intriguing to consider how there could, possibly, be clues to the disintegration of a relationship in how partners perceive each other's verbal and nonverbal expressions. Maybe perceiving the channels

differently in terms of these functions (for example, only seeing the nonverbal as sincere) is an indication of a deteriorating relationship. This would be an interesting avenue for future work.

Another implication of this work is that the true nature of these functions and how they differ across channels can only be understood if they are studied from both sides of the relationship in which they occur. Even if one is examining verbal and nonverbal expression in a relational context that is not a romantic relationship, it would be impossible to fully understand the way that these expressions are perceived and how they relate to the functioning of the relationship without studying these questions dyadically. As we see in these studies, many of the results cross partners, with one partner reporting the predictor variable and the other partner reporting the outcome variable. This work underscores the continued importance of studying emotion and its implications dyadically. This represents a key methodological contribution of this work, as it highlights the value of complex, dyadic studies such as this one and the importance of funding, designing, and executing this kind of research.

Finally, this work provides clear and compelling motivation, both theoretical and methodological, for other relationship researchers to examine verbal and nonverbal emotional expressions independently (but interactively) to fully capture how emotion functions to build relationships. This dissertation provides some evidence that verbal and nonverbal expressions might serve unique functions, such as verbal emotional expressions conveying that an emotion is intentionally expressed, and that the channels might differentially relate to the functioning of the relationship through their links to key relational processes such as trust and responsiveness. Although it is clear that these channels might serve unique and separate functions, there is also evidence that they serve some additive functions, as might be the case for communicating sincerity and for promoting trust in the partner. These unique and additive functions should be

further explored in future research to better understand their consequences and what contributes to them arising.

Whereas there is evidence of unique and additive functions of verbal and nonverbal channels in this dissertation, it is not as clear how the two channels might be interacting with one another to impact relationship functioning. In this dataset, the interaction of verbal and nonverbal expressions led to a number of different significant associations between emotional expression and variables such as trust in the partner, perceptions of the expresser's intentionality, and more, many of which fit with the overall expected patterning, but others that were more puzzling. To more fully understand how these two channels sometimes interact in complementary as well as oppositional ways to impact relationships, it is important that future research is developed with a specific aim to better understand these interactive effects (along with their distinctions from unique and additive effects).

However, returning to the points that Bavelas and colleagues (1990) made about the value of examining emotional communication holistically and the challenges of deciphering meaning from the two channels when they are separated, it is worthwhile to now re-consider the value and approach of studying verbal and nonverbal emotional expression independently in the way that I did here. Given that the results I presented here did not allow us to glean many clear-cut conclusions about the separate functions that verbal and nonverbal emotional expressions serve, it is important to think about the artificial nature of separating the channels in the way that I have done and whether this separation is valuable. I hold that it remains a valuable distinction to make, even if this is not how individuals express or perceive emotions in actual life (in many circumstances, at least). The presence of some distinct functions (such as intentionality being linked to verbal expression) do underscore the value of this separation. However, I think it is

useful to consider whether there might be more effective ways to go about this separation. If I were conducting this study over again, or even considering how to go about following up on this work, I think it would be beneficial to examine naturally occurring situations where only one channel is employed to express emotion. An example of this might be having the members of a couple send notes to each other where they are able to express their emotions, or perhaps placing couples into circumstances where they are unable to communicate verbally and must rely on their nonverbal signals to share how they are feeling with each other (such as within a crowded social environment). It would even be compelling to study less naturalistic environments where we can separate the channels by design, such as having couples view tapes of each other discussing emotional topics with the verbal content filtered out (so that only nonverbal facial expressions, gestural cues, and paralingual cues remain). Although these kinds of designs would lose some of their ecological validity and would likely prompt some of the same concerns that can be raised with separating the channels in the current program of research, having expressers and perceivers evaluate the expresser's expression through just one channel at a time might promote greater accuracy in identifying the specific types of expressions. This greater accuracy could then lead to more clear associations between expressions through each channel and their corresponding functions.

There are a vast number of future directions that can be taken with this dyadic dataset alone, and I look forward to the opportunities to explore those directions. One question that I am particularly interested to examine is how characteristics of each individual relationship partner, such as those measured during the pre-laboratory survey, might relate to their verbal and nonverbal emotional expression. For example, might individuals who are more generally optimistic choose to express more emotion verbally to their partners because they anticipate a

more favorable response than do individuals who are less optimistic? Could it be that partners with lower self-esteem experience less positive emotion and express less of it nonverbally? How do people who are known as openers (Miller et al., 1983), or in other words, people who can get partners to open up and self-disclose, accomplish that? We may be able to better elucidate the process of self-disclosure as well as the process of extracting disclosure from a partner with analysis of the behaviors during these emotional discussions. There are many other potential questions like this that can be explored within just this dataset.

Building on the results from this dissertation, I am also interested to see how the different channels of expression might relate to behaviors enacted during the discussion as well as to other ways of tapping into responsiveness, trust, intentionality, etc. For example, if we were to have a team of coders evaluate the tapes for responsiveness, in both the verbal and nonverbal channel, how might that relate to overall verbal and nonverbal expression? How might it relate to each partner's reports of their own and their partner's communal strength?

IV. Lessons Learned

Not only do the results of this dissertation have interesting implications for future research and for the field, but they also have implications for my own theorizing as well as my understanding of the nature and importance of dyadic research.

Regarding my own theorizing, I likely would make some very different predictions if I were going to conduct this study, or a similar study, again. In hindsight, now that I have analyzed and interpreted the results of the dyadic study, it seems obvious to me that the functions of verbal and nonverbal emotional expressions would operate in less straightforward and clear-cut ways within a close relationship context than they would in a context where strangers or acquaintances might interact. Many of my predictions drew directly on work examining

emotional expression between strangers in contexts where an expresser is deceiving the perceiver. Because these were some of the most relevant existing studies separating verbal and nonverbal expressions by their functions as I planned my own work, it is logical that I would predict that these roles might carry over into contexts where trusting partners are communicating valence and message congruent sentiments to a relationship partner. But I now believe that I was not sufficiently accounting for the role that relational context (here, that these individuals are in established close relationships) would play in modifying these functions when the messages are congruent. As I learned, the narrative of these functions becomes messier and more challenging to detangle once emotional expressions are identified within a context where partners are high in satisfaction with their relationship partner and have little to no reason to presume that either channel (verbal or nonverbal) is communicating an insincere or exaggerated message.

Concretely, if I were to examine the same questions in a new dyadic study, I would predict that both channels of expressive behavior would be linked to perceptions of sincerity because partners have no reason to disbelieve either channel. Therefore, partners are likely to incorporate information from both channels into their understanding of how genuine the emotional experience is. I would further predict that responsiveness, trust, and commitment would be linked to both verbal and nonverbal emotional expressions given that both channels in a congruent display likely serve relationship-building functions and indicate the expresser's interest in continuing the relationship. I would still predict that perceptions of intentionality and vulnerability would be more closely linked to verbal emotional expressivity rather than nonverbal expressivity. In this case, I still believe that verbal declarations of emotion convey that the expresser wants the perceiver to understand how they are feeling and to act upon that expression in a way that is responsive. This is likely to be particularly true in these highly

satisfied couples, which would mean that individuals should perceive those verbal expressions as highly intentional. When it comes to the lack of findings from this study linking verbal or nonverbal emotional expressions with perceptions of the expresser's vulnerability, I anticipate that this was primarily due to two factors. First, the term "vulnerable" carries a negative connotation of opening oneself up to exploitation. I did attempt to explain the way we were employing vulnerability in this study to participants, which was to signify that partners are willing to be open with one another in ways that allow their partner to respond to their emotional expression, likely for providing support. It is still possible, though, that this negative connotation was too salient for couples and that it took precedence when they were making their evaluations. Therefore, I think I would be more likely to find a link between vulnerability and verbal emotional expression if I used another term or more thoroughly explained the way that we are considering vulnerability for these highly satisfied couples (perhaps even verbally walking them through it in a conversation during the study to ensure they understand). Second, it could be that the couples in this study, because they are in a highly committed relationship characterized by high trust, all feel a similar level of vulnerability when expressing emotion to their partner. In this case, if I were to expand our sample to include couples who are lower in trust and commitment and might therefore be less likely to desire being vulnerable with their partner (thus reducing the restriction of range in vulnerability I might be seeing here), I could see a link appear between verbal expression and vulnerability.

If I were to repeat the same design for the in-laboratory experimental study, I would take into account that these are individuals who have just met and are in the process of (potentially) forming a relationship when making my predictions. I would therefore predict instead that nonverbal emotional expressions of nervousness would elicit the greatest amount of support. I

think I would remain agnostic about the influence of verbal emotional expressions because of their potential to either 1) be perceived as a direct solicitation of help or 2) be seen as too direct and forthcoming from a new potential relational partner. That being said, my predictions did follow directly from the results of Graham and colleagues' similar work (2008, Study 2) where they found that the combination of verbal and nonverbal expressions of nervousness garnered the highest amount of help (over just nonverbal expressions as well as no expressions). However, as highlighted in the discussion of Chapter Four, there are a few reasons to suspect that the results might differ in our study, including the gender of the confederate (Plant et al., 2000). Given these nuances, if I were planning to conduct another study to examine these questions within a similar paradigm, I would likely also manipulate the gender of the confederate to evaluate the role that gender plays (predicting that more help would be given to a female confederate expressing nervousness verbally compared to a male confederate expressing nervousness verbally). I also would be interested to manipulate verbal expression of nervousness in a variety of ways to see if these different types of expression might influence the results. For example, perhaps a less direct verbal expression of emotion, such as, "Wow, this is a tough task! I hope I do well on it," that still communicates nervousness without the kind of explicit emotional label used in this study would elicit greater help. I predict that a more indirect expression would elicit greater help than a direct statement because an indirect expression provides perceivers with the information needed to understand that the expresser needs help and it provides some detail about how to help them. At the same time, an indirect expression is not as undeniable as a direct expression of nervousness, which alleviates some of the pressure on a perceiver to respond.

Following the process of conducting these studies, particularly the labor and time intensive dyadic study, I learned a great many things about the process of conducting this kind of

dyadic research. I take every opportunity I come across to help share these lessons with other researchers embarking on this kind of data collection for the first time, and I feel that this learning gave me a vast toolkit of skills and resources to use in my career moving forward. One of the biggest lessons I learned from this process was the importance of organization and of meticulously managing the storage of data as well as study instructions and information. Given the sheer multitude of research assistants who worked with me on this project (nearly 30 of them), it was imperative to have a strong central repository of information about conducting the study that could be easily accessible to all of them, as well as to have a proven training regimen. To that end, I developed an organized and densely packed Google drive folder that I could easily add research assistants to when they joined the team (and, similarly, that I could remove them from when they moved on). This included sets of instructions that outlined the documents they would need to study during training as well as how to access the technology required for the study (video cameras, remote servers, etc.). Over time, this allowed me to become more efficacious in my training of research assistants because I could start them all on the same set of instructions and study overviews and then allow them to branch into other sets of instructions and procedures as applicable to the tasks they would perform.

With a team this large (even spread out over a span of several years), I also learned how to ensure that team members knew their individual roles and remained accountable to them. I quickly realized that with anywhere from 2 to 5 research assistants working on the study at one given time, details like emailing participants could slip through the cracks fairly easily. To combat this, I developed accountability systems, including a relay-style system for research assistants monitoring the study email that ensured one person was responsible for all emails to

participants in a given week until they received an email from me that “tagged in” their replacement research assistant to the role.

In training research assistants, I also learned the value of frequent and thorough study run-throughs for those in training to run participants. After the first few trainings, I realized how valuable this was for me as well as for them, as I began to pick up on the reasons behind common mistakes made by several research assistants and learned how these mistakes could often be attributed to my own script/procedure writing stylistic choices and nuances. It was also helpful to give me a stronger sense of what the participants experienced during the study, which helped me to better understand how they might be processing and approaching the experience.

Another significant domain in which I gained a much stronger skillset and learned many lessons was in the technological management of a study like this. Not only did we have significant amounts of paper data that needed to be digitized and organized, but we also needed to safely store and access our lengthy tapes of the discussions. In retrospect, I would have chosen to have all data entered digitally initially rather than recorded on paper, which would have required a bit more upstart cost to secure the necessary devices, but which would have resulted in a monumental amount of time and energy saved down the road. I also would have chosen to pause the recordings between each discussion (although this would have been a bit challenging given the value of recording other portions of the sessions, such as the times when participants are generating their topics). However, this would have cut down on the size of the files and made them easier to transport across virtual space into and out of the remote servers.

I am grateful for the opportunity that this study provided me to learn about storing and accessing secure video data, even though it presented challenges at times. I learned the peculiarities of the Yale Information Technology data storage systems and how to map servers

onto specific individuals and devices. These are now useful information banks and skills that I plan to take into the next steps of my career.

One of the primary challenges of this dyadic study was in recruiting couples. Possibly because of the time-intensive nature of the study (it was difficult for couples to commit to a 2-hour session together in the lab), or possibly because we were not recruiting through the proper websites or in-person locations, it took 1.5 years longer to conduct this study than I had anticipated based on hearing about others' experience conducting similar studies. If I were to do this again, I would recruit a few research assistants to work exclusively and intensively on recruitment. They could develop new recruitment strategies, hand out fliers, and follow up more intensively on web recruitment efforts than our team was able to do.

V. Conclusion

This dissertation sought to bridge a divide between two unique conceptual fields: the examination of the different ways that emotion is expressed and the consideration of how emotion, broadly, functions to build healthy close relationships. By examining the differential functions of verbal and nonverbal emotional expressions within close relationships, I have here begun to lay the foundation for this bridge and to provide some evidence that the different channels of expression contribute uniquely to building relationships. In future work, both undertaken by myself and by others, I hope that the pieces of this bridge continue to be built, refined, and put into place.

As other researchers embark on a path to better understand the components of this bridge and to better elucidate the functions of verbal and nonverbal expressions for building relationships, it is my hope that these scholars will carefully consider the value of this kind of naturalistic research that involves many different variables with the potential to interact in

multitudes of ways. Although this kind of complex research, particularly when studying actual couples engaging in emotional discussions, does not allow for researchers to separate and manipulate simple variables or to glean simple effects, this kind of work best approximates how emotional expression actually occurs in real relationships, which is valuable to understand. If we, as a field of relationship scholars and emotion scholars, continue to study variables in relative isolation from one another or continue to predominately examine the correlations between variables that are derived from retrospective online surveys, we will miss the nuances and interactions that happen when our variables of interest collide in actual encounters. Failing to study emotional expression and the experiences of couples in their natural environment causes us to miss the bigger picture of how these emotional discussions unfold in real time as well as what their potential consequences might be. Although simpler studies may allow us to walk away with streamlined results that lend themselves to more direct application, these conclusions may be incomplete, or even inaccurate, given the broader context they are failing to capture. Indeed, a central takeaway from this research is that expressers, perceivers, and coders often do not show high agreement with one another when evaluating how much an expresser shared their emotion verbally or nonverbally within a specific emotional discussion. This should caution researchers to think carefully about what kind of accuracy they are most interested in when designing their studies: the perspective of the expresser, the perspective of the perceiver, or the perspective of a third-party observer. Based on this understanding of what it is they are most interested in understanding, researchers could then choose how to design their studies to most appropriately draw the conclusions they are interested in. Researchers could then also understand the constraints on the generalizability of the conclusions they draw from one particular source of accuracy.

One may then ask how it is possible to derive meaningful takeaways from this kind of naturalistic, complex, and ultimately messy dyadic work. Although the conclusions are not always clean or easy to apply, these kinds of results might allow us to understand and map out general patterns of behavior and emotional expression and to link those patterns to features of the relationship's functioning. These patterns might then allow us to create different toolkits that could be employed by couples to improve their emotional expression and related behaviors with the aim of improving relationship functioning. Although these toolkits would be broad based on the kinds of conclusions we can draw from this research, they have the potential to be beneficial to many different couples. For example, I would encourage individuals in highly satisfied and highly committed relationships to learn from this research first that they may have different perceptions of how much emotion is expressed by one partner during any given emotional interaction. I would therefore encourage them to be cautious in their meta-perceptions about their own and their partner's emotional expressions as they may be viewing these expressions in very different ways from their partner. Second, I would encourage individuals in these highly satisfied relationships to consider their verbal expressions as signaling that they are intentionally and deliberately sharing how they feel, which may have implications for how and when they express emotion verbally as well as how they respond to those expressions. I would also encourage the individuals in these relationships to view both verbal and nonverbal expressions as signaling that an expression is genuine and sincere, which also may have implications for their expressive behavior and for their relationships.

In sum, this complex, naturalistic research allows us to truly understand how couples who are highly functional, highly satisfied, and committed to the future of their relationship express and perceive each other's emotions. This valuable window into the emotional functioning of

these relationships allows us to generate resources for other couples striving to reach the same relationship goals.

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Appendix A

Dyadic Study Script and Procedures

Pre-Study Protocol

****All email drafts can be found in the draft section of the study email. These should be used as templates to draft future emails (this can be done by copying and pasting the content and subject lines of the drafts into a new email). This allows for the draft formats to stay intact.

There are two people assigned to work with the study email at any given time: one person who monitors the email and one person who checks over it to make sure all email-related tasks have been completed. These two people will work closely in conjunction together to make sure each of the following is done with the email:

- 1) Once we receive an email from a potential participant expressing interest, send them “Contact Info/Invitation Email”. If a person requests that you communicate with them by phone, mark them as “MAY NEED TO CALL” in the “Participant Email Status” spreadsheet on the study email drive.
- 2) Check the contact info Qualtrics (yalesurvey.qualtrics.com → Emotion Couples Study Contact Information → Data & Analysis) frequently, as we don’t get notified when couples fill it out. If a new person fills the Qualtrics out, we are ready to send them time slots.
- 3) Once participants have filled out the contact info Qualtrics, send them the “Time Slot Email” to get them scheduled.
 - a) When choosing time slots to send them, look at availability of Lucy/RAs (slots that are in blue) time slots on the calendar and currently scheduled participants, then offer two available time slots varying in days of the week/times. Try to offer

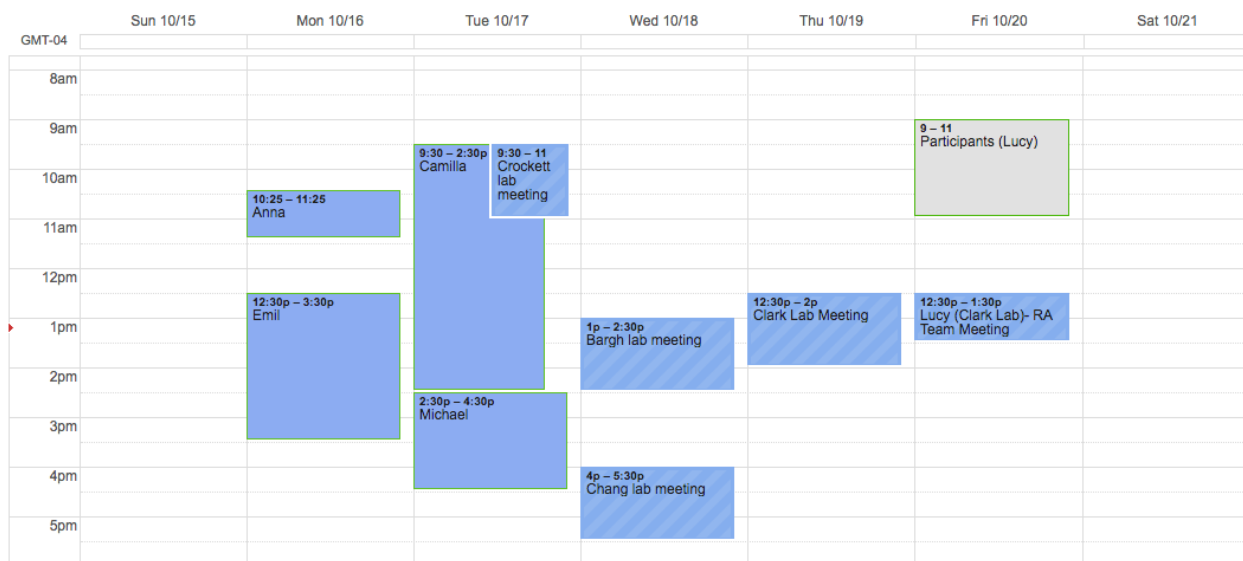
times that fit into the availability the couple listed on the Qualtrics, but it is okay to offer times that don't. If the couple requests something like evenings or weekends, check in with Lucy.

- b) Once you have offered two time slots, change the color of the time slot on the study calendar to yellow and enter the **first names** of the couple for reference (see image below).

GMT-04	Sun 10/15	Mon 10/16	Tue 10/17	Wed 10/18	Thu 10/19	Fri 10/20	Sat 10/21
8am							
9am				9 – 11 Timeslot (Lucy)		9 – 11 Timeslot (Lucy): Peggy and Jennifer	
10am			10 – 12p Timeslot (Camilla):				
11am							
12pm			12:30p – 2:30p Timeslot (Camilla)			12:30p – 2:30p Timeslot (Michael)	
1pm		1p – 3p Timeslot (Emil)					
2pm							
3pm				3p – 5p Timeslot (Lucy)	2:30p – 4:30p Timeslot (Michael):		
4pm							

- 4) Once a couple responds choosing a time slot and they are scheduled, you will send them one of two emails.
- If it is **more** than 48 hours away from their time slot, send them “Time Slot Confirmation- At least 48 hours prior”
 - If it is **less than or close to** 48 hours away from their time slot, send them “48 hours- Qualtrics Link.” See below for that template (also see the drafts folder of the email for a more accessible version).
 - Change the yellow slots not taken back to blue and remove the names. Then change the scheduled slot to lavender (see image above).

- d. On the running schedule (attached to our personal emails) add a gray block labeled “Participants” (without their names) and add the name of the person running in parentheses (see image below).



- 4) If a couple is scheduled more than 10 days in advance of their time slot, send them the “One Week” email a week before their scheduled time slot.
- 5) If a couple has been sent time slots but has not responded by 48 hours prior to their time slots (and it is at least 48 hours after we’ve offered the time slots), send them a reminder email following up about the offered slots.
- 6) If participants were **not** already sent the survey (aka they scheduled at least 48 hours prior to their time slot), send them the “48 hours- Qualtrics Link” around 48 hours prior to the time slot. **It is better to err on the longer side than the shorter side here! If a participant is scheduled for Monday and you won’t be able to email them over the weekend, send it on Friday.**

- 7) Around 24 hours before their scheduled time (or a bit earlier if needed), send them the “24 hour” email. See below (and in the drafts) for this template
- 8) Participants should respond to this last email to confirm that they filled out the pre-study questionnaire, if they have **not** by 3 hours prior to their slot, send them “Day of Confirmation Request”
- 9) **Whenever possible, send emails to both partners**
- 10) **Whenever you interact with a participant via email, note it in the “Participant Email Status” spreadsheet on the study email drive. This allows us to keep track of when the follow-ups need to occur. Once a participant has participated or expressed that they do not want to continue, highlight their entire row in pale yellow. If we have followed all of the contingency protocols and a participant hasn’t responded, highlight their entire row in pale purple to indicate that we won’t reach out to them unless they reach out to us.**
- 11) **Whenever a couple is scheduled, add them to the “Participant Schedule” on the study email drive. This should then be updated with the result of their participation (hopefully completed!) after you have finished running the participants.**
- 12) **Try to check the email daily and to respond to each email within 24 hours, if possible.**
- 13) **When a participant lists a phone number and requests a call- do this! There is a phone in Lucy’s office if you do not want to have your cell number show up. Some participants (who should be marked “MAY NEED TO CALL” in the Participant Email Status” spreadsheet) do not regularly check email and may prefer to talk to a person. Use the following format as a guide:**

“Hello, can I speak to [participant name] please?”

This is [name (optional)] from the Yale Relationships Lab Team calling to follow up with you. You expressed interest in participating in one of our studies and we would love to have you participate if you are still interested. If you are, we’ve just sent you an email with:

- a. A contact information link, so once you fill that out, we can get you scheduled for the study.
- b. Your offered time slots for [time slot 1] and [time slot 2]. If either of those times work for you, please reply to the email we recently sent you with that time. If neither time works, please send us an email at psychology.study2@gmail.com with a time that does.

If you have any questions, please email us at psychology.study2@gmail.com or call us at (203)432-6863. Thanks so much and have a great day.”

To recap, both the monitor and the checker should go through this checklist to make sure all of the following are done:

- Send “Contact Info/Invitation Email” to those who email us expressing interest (and mark “MAY NEED TO CALL” people as such)
- Check the contact info Qualtrics
- Send time slots to new people who filled out the Qualtrics
- Make sure all offered time slots are marked yellow and scheduled time slots are marked lavender on the study calendar

- Make sure all scheduled time slots are on the personal email running calendar with the name of the person running in parentheses
- Send 1 week emails to participants scheduled 10+ days out one week before their scheduled time slot
- Send 48 hr emails to participants 48 hours before their scheduled time slot
- Send 24 hr emails to participants 24 hours before their scheduled time slot (don't forget to attach directions to the lab!)

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Email templates

Email template #1: "48 hours- Qualtrics Link"

SUBJECT: Survey to complete for our research study

Dear [NAME]

Thank you for signing up to participate in our research study!

Before you and your partner come into the lab, please fill out a survey using this link:

[Insert Qualtrics survey link]

IMPORTANT:

- 1) You should each fill this out independently! Please do not discuss or look at each other's responses.
- 2) At the end of the survey, you will receive a code, which looks like this:

R_aH7845f754 (this will be a unique set of numbers and letters for you in particular). *Please make note of this code*. E-mail this code to yourself and bring it with you when you come into the lab.

Please do **not send us this code via email. We must have this code in order to provide you with compensation for this study.**

You need to fill out this survey prior to coming into the lab. Once you have completed the survey and come into the lab for your study visit, you will receive a \$10 Amazon gift card. The survey will take approximately ½ an hour to complete.

Please note that your participation in this study (including the survey) is completely voluntary and you may withdraw at any time.

Thank you. We look forward to seeing you in the lab!

E-mail Template #2: “24 hour”

SUBJECT: Reminder of research study on [DATE OF PARTICIPATION] at [TIME OF PARTICIPATION]

Dear [NAME],

We are looking forward to having you participate in our research study tomorrow ([INSERT DATE]) at [INSERT TIME] with your partner.

If you have not already completed the survey that we sent to you, please follow this link to do so:

[Insert Qualtrics survey link

Please make note of the code at the end of the survey and bring it with you when you come into the lab. **We must have this code in order to compensate you for completing the survey.**

In order to confirm your time slot, please respond to this email and let us know that you have completed the survey. Please do **not send us your code via email. We cannot run the study visit without you first completing this survey so please confirm that you have completed it so we can confirm your scheduled visit.**

The lab space is located at [1 Prospect street, New Haven CT](#) (the large white tower), room #406.

We will meet you outside of the elevator on the fourth floor. Metered parking is available on Hillhouse Avenue as well as on many of the surrounding streets. There is also a garage on Grove Street that you can utilize (Please see the attached map for the location of the lab and of convenient parking).

We look forward to seeing you and your partner tomorrow! Please be prepared to be at the lab for about an hour and bring both of your survey completion codes with you.

Thank you!

(****attach lab directions)

3) Contingencies:

- 1) Expresses interest in email but DOES NOT fill out contact info link.
 - a) Wait one week after your last contact (presumably when you send them the contact info link) and then send them “(Follow up-Contact Info)” (see below and in the drafts)

Dear [Recipients' first names or name],

Thank you again for expressing interest in participating in our study! If you are still interested in participating please follow the instructions below:

This is a two-part study that involves having discussions with your partner and answering questions about your thoughts and feelings. Part 1 is an online portion. Part 2 is an in-lab portion. Both you and your partner must participate. You will each receive a \$10 gift card after completion of Part 1, as well as an additional \$10 in cash for participating in Part 2! You will receive compensation for both portions when you come into the lab to complete Part 2.

In order to participate, you and your partner need to meet the following requirements:

- 18 years of age
- in a relationship for at least six months

Please click the link below and share your contact information (for both you and your partner!) if you wish to participate.

[Contact Information Link](#)

If you have any questions, please email us at psychology.study2@gmail.com

Thanks,

Yale Relationships Lab Team

- b) If the participant is marked “May need to call”, wait one week after you send the contact link and call them in addition to sending “(Follow up-Contact Info)”
 - c) Two weeks after sending the initial contact link, send the 2 week follow up email *and* call the participant, even if they are not marked “May need to call”. Then, change the color of the person from white to lavender in the participant email status spreadsheet to indicate that we will no longer contact that person.
- 2) Fills out Contact Info but does NOT respond to Time Slot Email. Wait one week from last contact (presumably when they filled out the contact info Qualtrics), then send them “Follow-up- Time Slot Email.” (See below or in drafts).
- a) *** **IF** the time slots you offered are approaching and it has not yet been one week from last contact, follow this procedure: once the approaching time slot is around 48 hours away, check to see if our last contact with the participants was at least 48 hours ago. If it was, go ahead and send them the prompting email below with the approaching time slot as the first option.

Dear [Recipients' First Names],

Thank you again for expressing interest in participating in our study! The next step is to schedule a time slot when you and your partner are available to come into the lab. We have the following time slots available:

[Offer time slots that you originally offered unless they have filled or passed. If they have, offer them three new spots]

If none of these times work for you, please let us know and we would be happy to get something else scheduled for you.

We are looking forward to hearing from you!

--

Yale Relationships Lab Team

3) No shows

- a) Email to send when no-shows occur (sent 15-30 minutes into scheduled session):

“NO SHOWS; THAT DAY.” (See below and in drafts)

Dear [Recipients' First Names],

We noticed that you were not able to make it into the lab today for your scheduled time.

We would still love to have you participate in our study, so please let us know when it may be a convenient time to reschedule your session.

We look forward to hearing back from you!

Thank you,

Yale Relationships Lab Team

- b) When participants no show, add “NO SHOW” to that time slot on the running schedule, the study calendar, the “Participant Schedule” spreadsheet in the study email, and the “Participant Email Status” spreadsheet. In addition, change the color of the block on the study calendar as well as on the running schedule to red.
- c) Email to send to no-shows who haven’t responded by one week from their scheduled session: “NO SHOWS; ONE WEEK LATER.” (See below and in drafts)

Dear [Recipients' first names],

We are still very interested in having you participate in our research study. We would love to reschedule a time for you and your partner to come in at your convenience. Please let us know when you might be able to reschedule your session.

We look forward to hearing from you!

Thank you,

Yale Relationships Lab Team

d) Call participants if they have not responded in another week after the one week email follow-up is sent.

e) **If a couple no shows twice, we can’t offer them new time slots.** Send the following email 15-30 minutes into their second scheduled session:

Dear [Recipients’ First Names],

We noticed that you were not able to make it into the lab today for your scheduled time.

We are unfortunately unable to offer you more time slots. Thank you for your interest in our study.

Take care,

Yale Relationships Lab Team

In-Lab Study Protocol

Prior to participants' arrival:

1. Turn on A/C unit in 406 and any fans (if applicable based on the weather)
2. Prep \$10 gift cards and cash.
3. Prep video equipment
 - i. Ensure that all cameras are plugged in
 - ii. Check that SD cards are all empty of other participant's data
 - iii. Turn cameras off until participants are seated in the room (otherwise they beep annoyingly)
4. Prep paper questionnaires and check to make sure there are pens in all the spot needed.

Questionnaires/Papers you will need:

*It is a good idea to have all of your paperwork gathered and labelled with ID numbers (and in order of distribution!) before participants arrive so you aren't scrambling to do it during the study. You can definitely do all of the following before they come in EXCEPT random assignment of A and B, which you can do ahead of time ONLY if you know the genders of the participants (and we should never assume gender- if you aren't sure, wait until they come in for that step

- a. Four general consent forms
- b. Four video consent forms
- c. Quarter sheet for you to keep in your clipboard. This will have participant's ID number, letter, counterbalancing code, and positive and negative topics
- d. Quarter sheet to put participant's ID number- this is where they will write their Qualtrics survey code

- e. Two half sheets for each participant to record their topics
- f. Two participant sets of PANAS surveys (5 surveys per participant set). Each PANAS should be labelled as PANAS 1, 2, 3, 4, 5
 - i. Check that the line lengths on each form are 5 cm, choosing a different line from each PANAS to measure (i.e. interested on PANAS 1, sad on PANAS 2, etc.).
- g. Two topic generation reference lists
- h. Two participant sets of PP and PE surveys (One PP set and one PE set for each participant)
 - i. These should furthermore be separated into three packets per set for the general questions, the positive questions, and the negative questions. For example, one participant's set of PP questions will be separated into a packet for the general questions about both topics, followed by a packet about the positive or negative topic (depending on which conversation occurred first) followed by a packet about the positive or negative topic (depending on which conversation occurred second)
 - ii. Each time **verbal** or **body language** is stated (should always be bolded), highlight it in yellow.
 - iii. Check that the line lengths on each form are 11.2 cm, choosing a different line from each form to measure (i.e. Q1-N on positive PE, Q12-P on negative PP, etc.).
- i. Two Marriage Demographics Forms
- j. Two debriefing forms

- k. Two remuneration forms
- l. Global Expressivity Form for you to keep on your clipboard and record your overall assessment of their expressivity, anything that deviated from the protocol, etc.

Prep the paperwork:

- 1) Assign each participant a participant ID (should be the same number for one dyad). Again, this can all be done ahead of time if you know the gender of your participants.
 - a) Look at the password protected spreadsheet linking participant names and numbers and select the participant number that follows sequentially. **Ensure participants cannot see this sheet.**
- 2) Assign each participant randomly to A/B status (again, if possible to do ahead of time!)
 - a) For other gender couples: We will have a paper bag that contains 5 slips of paper with “M” written on them and 5 slips of paper with “F” written on them. Pull out one of these slips. If “F” comes up, the female participant is participant A. If “M” comes up, the male participant is participant A.
 - b) For same gender couples: We will have a different paper bag that contains 5 slips of paper with “First” written on them and 5 slips of paper with “Second” written on them. Pull out one of these slips. If “First” comes up, the participant with the first name that comes first alphabetically is participant A. If “Second” comes up, the participant with the first name that comes second alphabetically is participant A. If both partners have the same first letter of their first name, move on to the second letter, and so on.

- 3) Add the participant's name and their number followed by their assigned letter (A or B) to the password protected spreadsheet. **Ensure participants cannot see this sheet. This full ID# will be the only thing that gets linked to their study data.**
- 4) Identify their counterbalanced task order (order of participant share & order of pos./neg. event shares) using the counterbalancing spreadsheet at the front of the "Surveys" binder. To do this, look at the next open row on the sheet and make note of the counterbalancing order. Then record the couple ID number (no letters) in the appropriate column.
- 5) Write the participant's number and letter (which is their full ID number) on a quarter sheet of paper to give to the participant for them to write down their Qualtrics code
- 6) Write down the participant's full ID number and counterbalancing order on a quarter sheet for your clipboard and gender (M/F) or if *both* are males/females identify by clothing color) This is for you to have as a reference throughout the study.
- 7) Write each participant's number and letter on each of the paper surveys and PANAS's as well as a blank sheet of paper for the participant's topic generation. Put these in order of how you will distribute them.
- 8) Turn off A/C unit in 406 prior to gathering participants (if applicable)

Once participants arrive:

- 1) Greet participants when they walk out of the elevator/stairs

"Hello! Are you here for a study?" [Wait for confirmation] *"Welcome! My name is [your name]."* [Wait for them to reciprocate and introduce themselves. If they don't offer their names, ask them directly. This helps to protect confidentiality if you approach someone other than your participants] [Start walking them towards 406] *How are you both doing today?* [Wait for responses, interact if it warrants] *Did you have any problems getting*

here? [Wait for responses. Try to use nonverbal cues to prompt both participants to answer. This is intended to help you get a baseline/global measure of each participant's emotional expression. Try to carefully observe both their verbal and nonverbal emotional expression throughout any exchanges you have with them and make note of their expressive behavior whenever possible on the global expression questionnaire.[Bring participants into room 406]. *Please have a seat in the chairs at the table* [designate seats at the table]. *“The cameras are not on now; they will not be on until I tell you. Please center your chairs to the table and try not to move them too much throughout the study. This keeps the camera angle centered when your chairs are facing one another. Thank you.”*

2) Hand participants **both** informed consent forms (1 general consent and 1 video).

“This first form covers the purpose of the study, which is to better understand the nature of discussions of positive and negative events, and how these discussions may vary in an everyday setting. This second form notes that we will be video recording you today. Please take as much time as you need to read these consent forms through and sign it on the back of the first form and at the bottom of the second form when you are finished. Please let me know if you have any questions! I will be back in a few minutes to collect these and to start the study.”

[Leave the room and return to the control room with the computer]

3) Return to participants. If they have completed the forms ask: *“Do you have any questions about the study or about these forms?”*

4) Collect informed consent form

a. Check that participant has signed and dated the form

- b. Add your signature and date to this form (once back in the control room)
 - c. Once possible, place in consent binder and lock consent binder into its cabinet (in control room).
- 5) Give them additional consent forms to take home with them. Place a stack of the 2 additional general consent forms and the 2 additional video consent forms on the table. *“Here are some extra consent forms that you can take home with you, if you are interested.”*
- 6) Collect Qualtrics survey code
- a) Hand participants the quarter sheets with their full ID number. *“These are your participant numbers for the study. This number, rather than your name or other personal information, will connect your responses from the survey you did online with your responses today. We will be using this number to maintain your confidentiality. Please record the code from your online survey onto this piece of paper.”*
 - b) Once they have done this, collect the paper and place it into your clipboard.
 - i) When you have time- enter the codes into the Qualtrics Survey Codes and Copy of Qualtrics Survey Codes spreadsheets on the server
 - 1) There are two documents for this. The idea is that you are independently entering them into each (not copying and pasting) to ensure we are not making errors in entry.
 - 2) Add the sheets to the manila folder with the participants’ couple ID number where you will collect the data once you have done this.
- 7) Instruct participants in discussing the first neutral topic:

“So, today you are going to be having a few short discussions with your partner. You are going to start out by talking about some neutral topics. Then you will each talk about positive and negative experiences. You will also answer some surveys about your thoughts and feelings throughout the study. Do you have any questions at this time?” (Pause for questions)

“Okay, first, we are going to have the two of you practice talking about something that is pretty neutral for both of you. We would like you to discuss the nature of the furniture in your house or apartment. [Name of participant designated to go first on “Participant Task Ordering” sheet], you can start the first discussion. Please discuss this as you normally would if you two were having a conversation with each other. We will stop you after five minutes. Certainly, if you are done before then, ring the bell. I am now going to turn on the cameras to record and leave the room. These will remain on until I tell you otherwise. As soon as you are done with your discussion, please ring this bell [motion to the bell on the table] and I will come back in.”

Turn on the three cameras and begin recording on all three cameras. Zoom and focus accordingly until the desired frame is achieved. The frame for all of the cameras should capture the participant’s entire upper body. Include enough space on the table to see hand movements there and enough space above the head to see hand movements there. For the profile camera, make sure that both participants are in the frame (this is why we ask participants to center their chairs into the table). Then leave the room and go to the control room, closing the door to 406 behind you. Make sure to follow the one-door rule for hearing the bell: There should only be one closed door between you and the participants when you are waiting to hear the bell and that is the one to 406. Once participants ring the bell or if five minutes has passed by, re-enter the room and approach the table. If you had to stop the participants, say: *“It’s been five minutes, so I am going to stop you there.”*

8) Instruct participants in discussing the second neutral topic: *“Great! Now, [Name of other participant], please start the next practice discussion. This time we would like you to describe the food items that are currently in your fridge and pantry. Again, please discuss this as you normally would. We will stop you after five minutes. Certainly, if you are done before then, ring the bell.”*

Then leave the room and go to the other room, closing the door behind you. Once participants ring the bell or if five minutes has passed by, re-enter the room and approach the table. If you had to stop the participants, say: *“It’s been five minutes, so I am going to stop you there.”*

9) Separate participants: bring participant B back into room in 403.

“Now we are going to have you fill out a short questionnaire in separate rooms. [Name of participant to leave], please come with me.”

10) PANAS #1

- a) Hand participant B State PANAS #1 *“Okay, first, we ask that you complete this short questionnaire about your emotions. We’ll give you this a few times throughout the study. Don’t worry about being consistent, emotions change all the time and we expect that. Just write down how you’re feeling in the moment each time we give you this form [Hand participant PANAS] To answer these questions, make a vertical slash (demonstrate on example), for each of these items (gesture to items) based on this 1-5 scale (gesture to scale). Please knock on my door [point across] when you are finished.”* Leave door open but glass door closed, close door to control room when you are back.

- b) Return to participant A: hand them State PANAS #1 *“Okay, first, we ask that you complete this short questionnaire about your emotions. We’ll give you this a few times throughout the study. Don’t worry about being consistent, emotions change all the time, that’s normal and we expect that. Just write down how you’re feeling in the moment each time we give you this form [hand participant PANAS]. To answer these questions, make a vertical slash (demonstrate on example), for each of these items (gesture to items) based on this scale (gesture to scale). I will be back in a moment.”*
- c) After 2-3 minutes, return to participant B. *“Are you finished with that?”*
- i) If “yes”: *“Great, I can take that. [pick up PANAS and tuck it into the clipboard].*
 - ii) If “no”: *“Okay, I will give you another minute.”* Check on participant A and return after 1 more minute.
- d) Return to participant A. *“Are you finished with that?”*
- i) If yes”: *“Great, I can take that. [pick up PANAS and tuck it into the clipboard].*
 - ii) If “no”: *“Okay, I will give you another minute.”* Check on participant B (if applicable) and return after 1 more minute.
- 11) Once both participants have completed the PANAS and you have collected them, bring participant B back into the main room (bring phone into room to time!).
- “Please follow me.”* Once back in the room, *“Have a seat.”*
- 12) Instruct participants in coming up with the emotional topics: *“Great. Do you have any questions at this point? Now we are going to have you think of some life events. Please use this*

*piece of paper [place the blank sheet of paper with their number and letter in front of each participant] to record two positive topics and two negative topics that are **personally** relevant to you that you can discuss with your partner. Here is a list of things to keep in mind while choosing your topics.*

[Hand participants the reference sheet]

*These topics should **not** be about your partner, including conflicts you may have with your partner or things you have done together. These topics **should** be something that happened to you but not to your partner. These topics can include things like an event in your place of work or study, your relationship with a close friend or family member, a hobby you like to engage in without your partner, or an event in your family of origin. Please try to think of something that happened or has been relevant in the past few months.*

Please choose negative topics that you would rate as falling between a 4 and a 7 on a 1 to 10 scale in terms of event negativity (with 10 being the most negative you can imagine, and 1 being very minimally to not at all negative). Please choose positive topics that you would rate as falling between a 4 and a 7 in terms of event positivity (with 10 being the most positive you can imagine, and 1 being very minimally to not at all positive). Please try to choose topics that you would rate differently, for example a 5 and a 7 rather than two 6s. When you write down the topic, please also write down the rating you gave it.

These topics should be everyday topics that you are comfortable discussing. Please do not choose topics such as clinical depression or intended harm to self or others. We know this is a lot to remember, so we have created a reference list of these things for you.”

“So, in summary, you are choosing 2 negative topics and 2 positive topics that are personally relevant to you and do not include your partner. Please choose topics between a 4 and a 7 on a scale of 1 to 10. Please let me know when you are finished.”

13) Take a seat in the corner and look down at your paperwork until participants signal that they are done. **Start a timer discreetly on your phone from when they start to when they are finished with their topic generation (individually if one person finishes first, use the lap button to record).** (If a person is having a difficult time coming up with a topic, make it known that it doesn't have to be recent or an event per se- repeat back pieces of the instructions you already gave). Mark this time on the sheet where you have made note of their global emotional expressivity.

14) Collect topics from the participants and leave the room. Choose the topic that has the highest value, unless it violates one of our rules for choosing topics.

****NOTES:**

- 1) If the participant gives both topics the same ratings in either the positive or negative section, circle the first topic written. Circle the chosen topic on each sheet to give back to participants. Each participant should have one positive and one negative topic to discuss.
- 2) If participant rates a topic outside of our specified range (4-7), choose the other topic (even if the other topic is lower).
- 3) If participant chooses a topic that involves a conflict with their partner or something that clearly affects both partners similarly, then choose the other topic.
- 4) If participant chooses a topic related to clinical depression or intended harm to self or other, choose the other topic.

- a) Make note of each participant's chosen topics on the reference sheet on your clipboard where you have marked participants' full ID numbers and counterbalancing orders.

Make sure you are able to connect which participant number corresponds to which topic.

15) Discussion #1: Return to the participants and place the topic sheet of the partner who will speak first (first PE) back in front of them. Save the other sheet for when the roles are switched.

“Alright, [Name of participant designated to go first on “Participant Task Ordering” sheet], you are going to start the first conversation again. Please discuss your circled [positive or negative depending on designated order from “Participant Task Ordering sheet] topic. Again, please discuss this as you normally would. We will stop you after five minutes. Certainly, if you are done before then, ring the bell.”

Prior to leaving the room, check that all cameras are still recording. Then leave the room and go to the other room, closing the door behind you.

16) In the control room while the participants are discussing, fill in the chosen topics in the PP and PE sets of questionnaires for each participant.

- a) Using your reference sheet on your clipboard, enter the chosen topics for participant A to discuss in their appropriate set of PE questionnaires. This involves writing the positive topic at the start of their positive topic PE questionnaire and the negative topic at the start of their negative topic PE questionnaire in the appropriate blanks.
- b) Do the same thing for participant A's PP questionnaires and both sets of participant B's questionnaires
- c) **Highlight where it says positive or negative** at the start of each positive or negative packet to emphasize this to participants (if it hasn't already been done).

17) Once participants ring the bell or if five minutes has passed by, re-enter the room, and approach the table. If you had to stop the participants, say: *“It’s been five minutes, so I am going to stop you there.”*

18) PANAS #2: *“Great! Now, we are going to have you fill out a few more questions separately. [Name of participant A], please follow me.*

a) Bring participant A to room in 403. Place PANAS #2 in front of them. *“You’re now going to fill out the same questionnaire as before. Again, don’t worry about being consistent, emotions change all the time. Fill this out based on how you feel right now. Please knock on my door [point across] when you are finished.”*

Leave door open but glass door closed, close door to control room when you are back.

b) Return to participant B: Place PANAS #2 in front of them. *“You’re now going to fill out the same questionnaire as before. Again, don’t worry about being consistent, emotions change all the time. Fill this out based on how you feel right now. I will be back in a few minutes.”*

c) After 3-4 minutes, return to participant A. *“Are you finished with that?”*

I. If “yes”: *“Great, I can take that. [pick up PANAS and tuck it into the clipboard].*

II. If “no”: *“Okay, I will give you another minute.”* Check on participant B

and return after 1 more minute.

d) Return to participant B. *“Are you finished with that?”*

I. If yes”: *“Great, I can take that. [pick up PANAS and tuck it into the clipboard].*

- II. If “no”: *“Okay, I will give you another minute.”* Check on participant A (if applicable) and return after 1 more minute.

19) Discussion #2: Once both participants have completed the PANAS and you have collected them, bring participant A back into the main room.

“Please follow me.” Once back in the room, *“Have a seat. Now, [Name of participant designated to go first], please start the next discussion. Please discuss your [positive or negative, depending on which one was just discussed] topic now. Again, please discuss this as you normally would. We will stop you after five minutes. Certainly, if you are done before then, ring the bell.”*

Then leave the room and go to the other room, closing the door behind you. Once participants ring the bell or if five minutes has passed by, re-enter the room, and approach the table. If you had to stop the participants, say: *“It’s been five minutes, so I am going to stop you there.”*

20) In-Lab Surveys #1 and PANAS #3: *“Great. Do you have any questions at this point? Now, we are going to again have you fill out a few more questions separately. [Name of participant B], please follow me.”*

- d) Bring participant B to the room in 403. Place PANAS #3 and In-Lab Survey #1 (either PP or PE depending on which role they just had) in front of them. *Please fill out the following questions. This first questionnaire [point to the PANAS] is the same one you filled out before. Again, don’t worry about being consistent, emotions change all the time. Fill this out based on how you feel right now. The next questions are about the two discussions you just had with your partner. Notice that there are separate questions about [your or your partner’s, depending*

on the role] *positive and negative topics. To answer questions such as these [indicate the lines for positive and negative on the PE/PP], please make vertical marks (as you do here [indicate the PANAS]) indicating your response along these two lines, one mark for how negative it is and one mark for how positive it is. Please knock on my door [point across] when you are finished.*” Leave door open but glass door closed, close door to control room when you are back.

If B was the expresser, collect their topic form at this time.

- e) Return to participant A: Place PANAS #3 and In-Lab Survey #1 in front of them. *“Please fill out the following questions. This first questionnaire [point to the PANAS] is the same one you filled out before. Again, don’t worry about being consistent, emotions change all the time. Fill this out based on how you feel right now. The next questions are about the two discussions you just had with your partner. Notice that there are separate questions about [your or your partner’s, depending on the role] positive and negative topics. To answer questions such as these [indicate the lines for positive and negative on the PE/PP], please make vertical marks (as you do here [indicate the PANAS]) indicating your response along these two lines, one mark for how negative it is and one mark for how positive it is. I will be back in a few minutes.”*

If A was the expresser, collect their topic form at this time.

- f) After 5-6 minutes, return to participant B. *“Are you finished with that?”*
- I. If “yes”: *“Great, I can take that. [pick up PANAS and surveys and tuck it into the clipboard].”*

II. If “no”: *“Okay, I will give you another minute.”* Check on participant A and return after 1 more minute.

d) Return to participant A. *“Are you finished with that?”*

III. If yes”: *“Great, I can take that. [pick up PANAS and tuck it into the clipboard].*

IV. If “no”: *“Okay, I will give you another minute.”* Check on participant B (if applicable) and return after 1 more minute.

21) Discussion #3: Once both participants have completed the PANAS and other survey and you have collected them, bring participant B back into the main room. *“Please follow me.”* Once they are settled, you should switch out the topic sheets so that only the partner speaking second (second PE) has it placed in front of them.

“Have a seat. Now, [Name of participant designated to go second], please start the next discussion. Please discuss your [positive or negative depending on designated order from “Participant Task Ordering” sheet] topic first. Again, please discuss this as you normally would. We will stop you after five minutes. Certainly, if you are done before then, ring the bell.”

Then leave the room and go to the other room, closing the door behind you. Once participants ring the bell or if five minutes has passed by, re-enter the room, and approach the table. If you had to stop the participants, say: *“It’s been five minutes, so I am going to stop you there.”*

22) PANAS #4: *“Great! Now, we are going to again have you fill out a few more questions separately. [Name of participant A], please follow me.”*

- g) Bring participant A to the room in 403. Place PANAS #4 in front of them.

You're now going to fill out the same questionnaire as before. Again, don't worry about being consistent, emotions change all the time. Fill this out based on how you feel right now. Please knock on my door [point across] when you are finished." Leave door open but glass door closed, close door to control room when you are back.

- h) Return to participant B: Place PANAS #4 in front of them. *"You're now going to fill out the same questionnaire as before. Again, don't worry about being consistent, emotions change all the time. Fill this out based on how you feel right now. I will be back in a few minutes."*

- i) After 3-4 minutes, return to participant A. *"Are you finished with that?"*

I. If "yes": *"Great, I can take that. [pick up PANAS and tuck it into the clipboard]."*

II. If "no": *"Okay, I will give you another minute."* Check on participant B

and return after 1 more minute.

- d) Return to participant B. *"Are you finished with that?"*

V. If yes": *"Great, I can take that. [pick up PANAS and tuck it into the clipboard]."*

VI. If "no": *"Okay, I will give you another minute."* Check on participant A (if applicable) and return after 1 more minute.

23) Discussion #4: Once both participants have completed the PANAS and you have collected them, bring participant A back into the main room. *"Please follow me."* Once back in the room,

“Have a seat. Now, [Name of participant designated to go second], please start the next discussion. Please discuss your [positive or negative depending on which one was already discussed] topic now. Again, please discuss this as you normally would. We will stop you after five minutes. Certainly, if you are done before then, ring the bell.”

Then leave the room and go to the other room, closing the door behind you. Once participants ring the bell or if five minutes has passed by, re-enter the room, and approach the table. Turn off all three cameras. *“The cameras are now off and will remain off.”* If you had to stop the participants, say: *“It’s been five minutes, so I am going to stop you there.”*

24) In-Lab Survey #2 and PANAS #5: *“Great! Now, we are going to again have you fill out a few more questions separately. [Name of participant B], please follow me.”*

- j) Bring participant B to the room in 403. Place PANAS #5 and In-Lab Survey #2 (either the NILP/PP or the NILE/PE depending on the role they just had) in front of them. *Please fill out the following questions. This first questionnaire [point to the PANAS] is the same one you filled out before. Again, don’t worry about being consistent, emotions change all the time. Fill this out based on how you feel right now. The next questions are about the two discussions you just had with your partner. Please consider only the last two discussions you had on [your or your partner’s, depending on the role] topics. Again, notice that there are separate questions about [your or your partner’s, depending on the role] positive and negative topics. Please knock on my door [point across] when you are finished.”* Leave door open but glass door closed, close door to control room when you are back.

- k) Return to participant A: Place PANAS #5 and In-Lab Survey #2 in front of them.
- “Please fill out the following questions. This first questionnaire [point to the PANAS] is the same one you filled out before. Again, don’t worry about being consistent, emotions change all the time. Fill this out based on how you feel right now. The next questions are about the two discussions you just had with your partner. Please consider only the last two discussions you had on [your or your partner’s, depending on the role] topics. Again, notice that there are separate questions about [your or your partner’s, depending on the role] positive and negative topics. I will be back in a few minutes.”*
- i) Before leaving, grab the cameras. Bring them back to the control room and begin uploading the videos. The videos for the profile camera can be uploaded simultaneously, while the videos for the head-on cameras must be uploaded individually. This is important! It can take up to an hour (or longer sometimes!) to upload these, so you must start these before the study ends. If you are having issues doing this, please call Lucy asap.
- l) After 5-6 minutes, return to participant B. *“Are you finished with that?”*
- I. If “yes”: *“Great, I can take that. [pick up PANAS and tuck it into the clipboard].”*
- II. If “no”: *“Okay, I will give you another minute.”* Check on participant A and return after 1 more minute.
- d) Return to participant A. *“Are you finished with that?”*
- VII. If yes”: *“Great, I can take that. [pick up PANAS and tuck it into the clipboard].”*

VIII. If “no”: *“Okay, I will give you another minute.”* Check on participant B (if applicable) and return after 1 more minute.

25) Marriage demographics: Bring participant B back into room 406 *“Please follow me.”* Once back in the room: *“Please take a seat.”*

“We have one more questionnaire for you to fill out regarding the length of your relationship with your partner. [Hand participants Marriage Demographics form] Please answer the first set of questions if you and your partner are married or the second set of questions if you and your partner are not married. Please let me know when you have completed this.”

26) Debrief and thank participants: Sit in the chair in 406 and wait for them to inform you that they have completed the questionnaire. Once they have:

“Great, I can take that. [Collect questionnaires. Make sure to collect topic generation forms as well]. Alright, that is the end of the study. I want to thank you again for your participation today. We really appreciate it and we hope that you enjoyed being a part of this study. Here is a debriefing form for you [hand participants debriefing form]. This form highlights what the study is about and has the primary investigators’ contact information on it in case you have any questions or concerns.

Just briefly, this study is looking at the nature of emotional expression in romantic couples. We are interested in questions such as whether people’s beliefs about expressing emotion correspond to their actual expression, as well as how they express emotion using both words and body language. Do you have any questions for me?

We may want to do a follow-up study at some point in the future to see how your emotional expression changes over time. Would you be willing to be contacted to participate in

that follow-up study? The follow-up would be completely voluntary and you can decide not to participate once you are re-contacted.” Make a note of each participant’s response.

27) Give participants their compensation

“Here is your compensation from participating in our study: a \$10 Amazon gift card and an additional \$10. Please fill out and sign this form saying that you received the compensation.

“[Hand participants the remuneration form]

a) Once they have indicated completion:

- i) Check that they have filled out the information and signed it
- ii) Sign it as the experimenter
- iii) Place the form in the consent binder under the remuneration tab

If Lucy would like to speak with the participants for any reason (CHECK WITH LUCY FIRST) this would be the time to say: *“If you have a couple of minutes would you be able to speak with the primary investigator? She would like to ask you a couple of questions about your experience.*

28) Clean up and re-group

- a. **Update the “Participant Schedule” spreadsheet on the study email drive with the participants’ names, timeslot, and status (COMPLETED, NO SHOW, etc.).**
- b. Update the “Participant Email Status” spreadsheet on the study email drive with the participants’ status.
- c. Put all paper surveys into the manila folder you have labelled with the participants’ number-ensure that the online survey codes are in there as well- place in designated location.
- d. Ensure that consent forms and remuneration forms are in the consent form binder-lock into the proper cabinet

- e. Move video files from camera to the desktop computer and delete the videos off of the camera- **MUST** be done between each couple. If you do not have ample time to do this, please call Lucy to help ASAP. If you have issues- call Lucy
 - i. Using the USB cables, plug each camera into the encrypted computer (you must click playback on camera in order for videos to transfer-only for canons).
 - ii. Click on the button showing a yellow file at the bottom of the home screen for the computer
 - iii. Click on the camera listed under “Devices”
 - iv. Navigate to the video file on the camera (this can be done by clicking on the camera icon/removable storage, then PRIVATE, then BDMV, then AVCHD, then STREAM. You will then see the files for the videos (the software will have automatically divided the videos into 2-3 clips).
 - v. Drag the video file to the Storage @ Yale folder: marked Armentano-Clark-Hay Dyadic 2016 shortcut on the desktop: this will copy the video file. Do **NOT** try to view the video prior to dragging it into the cloud (it will not open). If proper transferral takes place, you should be able to view the file once it is in the cloud. Note that you should move the videos to the drive generally but **NOT** directly to the Videos folder on the drive (it will be **much** slower if you do). Rename the videos in the following format:
 1. Camera trained on participant A: Full ID number (ex. 956A)
 2. Camera trained on participant B: Full ID number (ex. 956B)
 3. Camera trained on profile of couple: Couple ID number (ex. 956)
 - vi. Delete the videos off of the cameras by intializing/re-formatting the SD cards

1. Panasonic: Access the menu by touching the screen on the far left side and selecting “Menu”
 - a. Click “Setup”
 - b. Scroll down and click “Format media”
 - c. When it asks “Do you want to format card?” hit yes. It then warns you that this will erase all contents- hit yes again.
 - d. Confirm that the video has been deleted by hitting the playback button (the one with a picture of a video camera/a play button
2. Canon: Access the menu by touching the button with an image of a house filled with four squares
 - a. Select “Other Settings”
 - b. Go to the tab with a wrench at the top
 - c. Scroll down to the option that says “Initialize SD” and press the rectangle at the right of that line
 - d. Select the “Initialize” button at the bottom of the screen
 - e. Confirm that the video has been deleted by hitting the playback button (the one under the on/off button

Some notes on using the encrypted computer:

- 1) Anyone with a NetID can log on to this computer. Each person that logs on enters their personal profile. So anything you save to the computer/desktop itself will only be accessible to you, the creator. If you want to save something that the other people involved in the study can see, save it to the Storage @ Yale backup server (Armentano-Clark-Hay Dyadic 2016).

- 2) The Storage @ Yale server is only accessible to our study collaborators, so you should store all videos and participant logs to this server. You should save these things *only* to the server rather than to the computer itself.
- 3) To save a document to the Storage @ Yale server, go to “Save As” and click “Browse.” Then you can select the server (Armentano-Clark-Hay Dyadic 2016) as the location to save the document.

Some notes on “what-ifs”

- 1) If a participant (or both!) come in without having filled out the pre-study survey:
 - a) Check the schedule:
 - i) if there is no one scheduled after them, ask them if they can stay a bit longer and have them fill out the survey before starting the in-lab portion. They can sit in separate rooms in 403 and 406 and use personal phones/computers if they would like. We should offer them a computer, so we have a few options there: there are lab laptops that will be in hot demand this summer. If this issue arises and you need a computer, you can call Lucy and she can figure out if one is available. We can also work to get access to the old desktop in 403B.
 - ii) If there is a couple scheduled after them, ask them if they can stay after then run the in-lab portion as usual but **do not do the debriefing**. Then have them fill out the pre-study survey after the in-lab portion. After they are done, then do the debriefing and remuneration. This will be a bit complicated if you have another couple coming in, but you may also be able to use space in 414 if needed.

- iii) If the couple cannot stay to fill out the survey- still working on what to do here! (Call Lucy if this occurs)
- iv) If participants ask how they can access the results of the study or anything along those lines:

(1) *“We can’t distribute the results, but we will hopefully be publishing the work in an academic journal. We also update our website with new publications.”*

- (a) Make slips of paper with link that you can potentially hand to participants if they want (only if they specifically request it)

(b) <http://clarkrelationshiplab.yale.edu/>

b) If the camera doesn’t record, instruct couples to repeat conversations that were missed by the cameras. Use the following description of the situation and how they should proceed: *“I’m sorry about this, but it appears we are having some technical difficulties and the camera[s] were not recording that last bit. Can I have you [insert appropriate participant’s name] discuss [insert topic] again? Don’t feel as though you need to say the same things or have the same discussion. Just let the conversation flow naturally on that topic again. Please ring the bell again when you are finished. Thanks!”*

i) We should only need participants to repeat the portion that was pertinent to the camera that was out. So, if the camera trained on participant B was out for the whole first section of emotional discussion, you only really need to have them re-do the discussion of participant B’s topic because that will also capture their reactions to their partner and the profile camera was still going. If you are unsure as to how to proceed, call Lucy.

Appendix B

Dyadic Study Pre-Laboratory Measures

1. Emotional Expressivity Scale (EES, Kring et al., 1994; modified)

1	2	3	4	5	6
Never True					Always True

EES - 1 = I think of myself as emotionally expressive

EES - 2 = People think of me as an unemotional person (R)

EES - 3 = I keep my feelings to myself (R)

EES - 4 = I am often considered indifferent by others (R)

EES - 5 = I am not very emotionally expressive (R)

EES - 6 = Even when I'm experiencing strong feelings, I don't express them outwardly (R)

EES - 7 = Other people believe me to be very emotional

EES - 8 = I don't express my emotions to other people (R)

EES - 9 = The way I feel is different from how others think I feel (R)

EES - 10 = I hold my feelings in (R)

EES - 11 = People can read my emotions

EES - 12 = I display my emotions to other people

EES - 13 = I don't like to let other people see how I'm feeling (R)

EES - 14 = I am able to cry in front of other people

EES - 15 = Even if I am feeling very emotional, I don't let others see my feelings (R)

EES - 16 = Other people aren't easily able to observe what I'm feeling (R)

EES - 17 = I can't hide the way I'm feeling.

Additional items:

EES - L1 = I think of myself as emotionally expressive through my body language (i.e. my facial expressions, hand and body movements, how slowly or quickly I speak, and my tone of voice).

EES - L2 = My emotions often leak out through my facial expressions or tone of voice.

EES - L3 = Other people tell me that they can't read what my feelings are based on my behaviors.

EES - L4 = I tell other people about my emotions.

EES - L5 = I don't like to tell other people how I am feeling.

EES - L6 = Even if I am feeling very emotional, I don't explicitly tell other people how I am feeling.

EES - L7 = I am able to tell people how I feel about something.

EES - L8 = I think of myself as verbally emotionally expressive (i.e. through the words that I say- not including the ways that I say them).

EES - L9 = Other people often know how I am feeling because I explain it to them.

EES - L10 = People understand my emotions because I explicitly state them.

EES - L11 = I often mention how I am feeling to other people.

EES - L12 = Even when I'm experiencing strong feelings, I don't explicitly state them to other people.

EES - L13 = How I am feeling is often clear to others because I mention it.

2. Affective Communication Test (ACT, Friedman et al., 1980)

1	2	3	4	5	6	7	8	9
Not at all true of me								Very true of me

ACT - 1 = When I hear good dance music, I can hardly keep still.

ACT - 2 = My laugh is soft and subdued. (R)

ACT - 3 = I can easily express emotion over the telephone.

ACT - 4 = I often touch friends during conversations.

ACT - 5 = I dislike being watched by a large group of people. (R)

ACT - 6 = I usually have a neutral facial expression. (R)

ACT - 7 = People tell me that I would make a good actor or actress.

ACT - 8 = I like to remain unnoticed in a crowd. (R)

ACT - 9 = I am shy among strangers. (R)

ACT - 10 = I am able to give a seductive glance if I want to.

ACT - 11 = I am terrible at pantomime as in games like charades. (R)

ACT - 12 = At small parties I am the center of attention.

ACT - 13 = I show that I like someone by hugging or touching that person.

3. Berkeley Expressivity Questionnaire (BEQ, Gross & John, 1995)

1	2	3	4	5	6	7
Strongly Disagree			Neutral/Mixed			Strongly Agree

BEQ - 1 = Whenever I feel positive emotions, people can easily see exactly what I am feeling.

BEQ - 2 = I sometimes cry during sad movies.

BEQ - 3 = People often do not know what I am feeling. (R)

BEQ - 4 = I laugh out loud when someone tells me a joke that I think is funny.

BEQ - 5 = It is difficult for me to hide my fear.

BEQ - 6 = When I'm happy, my feelings show.

BEQ - 7 = My body reacts very strongly to emotional situations.

BEQ - 8 = I've learned it is better to suppress my anger than to show it. (R)

BEQ - 9 = No matter how nervous or upset I am, I tend to keep a calm exterior. (R)

BEQ - 10 = I am an emotionally expressive person.

BEQ - 11 = I have strong emotions.

BEQ - 12 = I am sometimes unable to hide my feelings even though I would like to.

BEQ - 13 = Whenever I feel negative emotions, people can easily see exactly what I am feeling.

BEQ - 14 = There have been times when I have not been able to stop crying even though I tried to stop.

BEQ - 15 = I experience emotions very strongly.

BEQ - 16 = What I'm feeling is written all over my face.

4. Emotional Experience and Expression Questionnaire (originally used in a longitudinal study of married couples led by Margaret Clark)

1	2	3	4	5	6	7
Never	Rarely	Occasionally	Sometimes	Frequently	Usually	Always

NPL1 = How often do you experience sadness?

NPL2 = When you do experience sadness, how likely are you to express the sadness (verbally or by clear facial and vocal tone) to your partner?

NPL3 = How often does your partner personally experience sadness?

NPL4 = When your partner experiences sadness, how likely is he (or she) to express the sadness (verbally or by clear facial and vocal tone) to you?

NPL5 = How often do you experience happiness?

NPL6 = When you do experience happiness, how likely are you to express the happiness (verbally or by clear facial and vocal tone) to your partner?

NPL7 = How often does your partner personally experience happiness?

NPL8 = When your partner experiences happiness, how likely is he (or she) to express the happiness (verbally or by clear facial and vocal tone) to you?

NPL9 = How often do you experience anger/irritability?

NPL10 = When you do experience anger/irritability, how likely are you to express the anger/irritability (verbally or by clear facial and vocal tone) to your partner?

NPL11 = How often does your partner personally experience anger/irritability?

NPL12 = When your partner experiences anger/irritability, how likely is he (or she) to express the anger/irritability (verbally or by clear facial and vocal tone) to you?

NPL13 = How often do you experience disgust?

NPL14 = When you do experience disgust, how likely are you to express the disgust (verbally or by clear facial and vocal tone) to your partner?

NPL15 = How often does your partner personally experience disgust?

NPL16 = When your partner experiences disgust, how likely is he (or she) to express the disgust (verbally or by clear facial and vocal tone) to you?

NPL17 = How often do you experience guilt?

NPL18 = When you do experience guilt, how likely are you to express the guilt (verbally or by clear facial and vocal tone) to your partner?

NPL19 = How often does your partner personally experience guilt?

NPL20 = When your partner experiences guilt, how likely is he (or she) to express the guilt (verbally or by clear facial and vocal tone) to you?

NPL21 = How often do you experience hurt?

NPL22 = When you do experience hurt, how likely are you to express the hurt (verbally or by clear facial and vocal tone) to your partner?

NPL23 = How often does your partner personally experience hurt?

EEBQ - S10 = Expressing my sadness to close others or crying in front of them makes me feel worse.

EEBQ - S11 = When I express sadness to close others, they find me to be annoying.

EEBQ - S12 = Crying or being sad around close others will make them like me less.

EEBQ - S13 = People will think I'm just expressing sadness to get something I want.

EEBQ - S14 = Close others will be resentful if I express sadness.

EEBQ - S15 = People avoid me when I express being down.

EEBQ - S16 = My close others withdraw support when I express my sad feelings.

EEBQ - H: Emotional Expressivity Behavior Questionnaire - Happy

EEBQ - H1 = I often feel even better as a result of just expressing my happiness to close others.

EEBQ - H2 = Merely sharing my happiness with a close other increases it.

EEBQ - H3 = When I tell close others about my own happiness they know I like them.

EEBQ - H4 = Openly sharing happiness lets my close others know I value the relationship.

EEBQ - H5 = When I'm happy and tell a close other, that person feels trusted.

EEBQ - H6 = My willingness to let a close other know I'm feeling happy makes that person feel valued.

EEBQ - H7 = When I express happiness, my close others rally around me.

EEBQ - H8 = When I express happiness, my close others offer support.

EEBQ - H9 = After I express happiness to a close other, I often feel worse and wish I had not done so.

EEBQ - H10 = Expressing my happiness to close others in words or actions can dampen it.

EEBQ - H11 = When I express happiness to close others, they find me to be annoying.

EEBQ - H12 = Celebrating or being happy around close others will make them like me less.

EEBQ - H13 = People will feel I'm bragging if I express happiness.

EEBQ - H14 = Close others will be resentful or envious if I express happiness.

EEBQ - H15 = People avoid me when I express feeling happy.

EEBQ - H16 = My close others withdraw support when I express my happiness.

6. Positive and Negative Affective Schedule (PANAS)-General (Watson et al., 1988; modified)

PANAS-General (Watson, Clark, & Tellegen, 1988)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the 5-point scale below. Indicate to what extent you **generally** feel this way, that is, **how you feel on the average day**.

Note: A few additional items were added to this measure to capture specific emotional constructs we were interested in. Added items denoted with *

We also removed “scared” because of overlap with “afraid”

1	2	3	4	5
Very Slightly or Not at All	A little	Moderately	Quite a bit	Extremely

PG - 1 = Interested

PG - 2 = Distressed

PG - 3 = Excited

PG - 4 = Upset

PG - 5 = Strong

PG - 6 = Hostile

PG - 7 = Enthusiastic

PG - 8 = Proud*

PG - 9 = Happy*

PG - 10 = Hurt*

PG - 11 = Embarrassment*

PG - 12 - Pride for another*

PG - 13 = Irritable

PG - 14 = Alert

PG - 15 = Ashamed

PG - 16 = Inspired

PG - 17 = Nervous

PG - 18 = Determined

PG - 19 = Attentive

PG - 20 = Jittery

PG - 21 = Active

PG - 22 = Afraid

PG - 23 = Gratitude*

PG - 24 = Guilt*

PG - 25 = Pride for yourself*

PG - 26 = Joy for another person's good fortunes*

PG - 27 = Sadness for another's misfortune*

PG - 28 = Happiness for another person's good fortune*

7. Self-esteem (Rosenberg, 1965)

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree

SE- 1 = I feel that I am a person of worth, at least on an equal plane with others. 4

SE - 2 = I feel that I have a number of good qualities.

SE - 3 = All in all, I am inclined to feel that I am a failure. (R)

SE - 4 = I am able to do things as well as most other people.

SE - 5 = I feel I do not have much to be proud of. (R)

SE - 6 = I take a positive attitude toward myself.

SE - 7 = On the whole, I am satisfied with myself.

SE - 8 = I wish I could have more respect for myself. (R)

SE - 9 = I certainly feel useless at times. (R)

SE - 10 = At times I think I am no good at all. (R)

8. Attachment style (ECR-Short Form, Wei, Russell, Mallinckrodt, & Vogel, 2007)

1	2	3	4	5	6	7
Strongly Disagree			Neutral/Mixed			Strongly Agree

ECR - AV: Avoidance Subscale

ECR - AV1 = I want to get close to my partner, but I keep pulling back.

ECR - AV2 = I am nervous when partners get too close to me.

ECR - AV3 = I try to avoid getting too close to my partner.

ECR - AV4 = I usually discuss my problems and concerns with my partner. (R)

ECR - AV5 = It helps to turn to my romantic partner in times of need. (R)

ECR - AV6 = I turn to my partner for many things, including comfort and reassurance. (R)

ECR - AN: Anxiety Subscale

ECR - AN1 = I worry that romantic partners won't care about me as much as I care about them.

ECR - AN2 = My desire to be very close sometimes scares people away.

ECR - AN3 = I need a lot of reassurance that I am loved by my partner.

ECR - AN4 = I do not often worry about being abandoned. (R)

OR7 = I rarely count on good things happening when trying to form a new relationship.

OR8 = If something can go wrong while forming a new relationship, it will.

OR9 = I expect to have a hard time when forming new relationships.

OR10 = I'm rarely confident about my ability to successfully form new relationships.

11. Self-disclosure Index (Miller, Berg, & Archer, 1983)

0	1	2	3	4
Discuss not at all				Discuss fully and completely

SDI1 = My personal habits.

SDI2 = Things I have done which I feel guilty about.

SDI3 = Things I wouldn't do in public

SDI4 = My deepest feelings

SDI5 = What I like and dislike about myself

SDI6 = What is important to me in life.

SDI7 = What makes me the person I am

SDI8 = My worst fears

SDI9 = Things I have done which I am proud of

SDI10 = My close relationships with other people

12. Opener Scale (Miller, Berg, & Archer, 1983)

1	2	3	4	5
Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree

OS1 = People frequently tell me about themselves.

OS2 = I've been told that I am a good listener.

OS3 = I'm very accepting of others.

OS4 = People trust me with their secrets.

OS5 = I easily get people to “open up”.

OS6 = People feel relaxed around me

OS7 = I enjoy listening to people

OS8 = I’m sympathetic to people’s problems

OS10 = I can keep about talking about themselves.

13. Trust in the partner (Rempel, Holmes, & Zanna, 1985; modified to be about the specific partner)

-3	-2	-1	0	1	2	3
Strongly Disagree			Neutral			Strongly Agree

T4 = My partner has proven to be trustworthy and I am willing to let him/her engage in activities which other partners find too threatening.

T6 = Even when I don't know how my partner will react, I feel comfortable telling him/her anything about myself; even those things of which I am ashamed.

T7 = Though times may change and the future is uncertain, I know my partner will always be ready and willing to offer me strength and support.

T8 = I am never certain that my partner won't do something that I dislike or will embarrass me.
(R)

T9 = My partner is very unpredictable. I never know how he/she is going to act from one day to the next. (R)

T10 = I feel very uncomfortable when my partner has to make decisions which will affect me personally. (R)

T11 = I have found that my partner is unusually dependable, especially when it comes to things which are important to me.

T12 = My partner behaves in a very consistent manner.

T14 = Whenever we have to make an important decision in a situation we have never encountered before, I know my partner will be concerned about my welfare.

T15 = Even if I have no reason to expect my partner to share things with me, I still feel certain that he/she will.

T16 = I can rely on my partner to react in a positive way when I expose my weaknesses to him/her.

T18 = When I share my problems with my partner, I know he/she will respond in a loving way even before I say anything.

T20 = I am certain that my partner would not cheat on me, even if the opportunity arose and there was no chance that he/she would get caught.

T21 = I sometimes avoid my partner because he/she is unpredictable and I fear saying or doing something which might create conflict. (R)

T22 = I can rely on my partner to keep the promises he/she makes to me.

T24 = When I am with my partner I feel secure in facing unknown new situations.

T25 = Even when my partner makes excuses which sound rather unlikely, I am confident that he/she is telling the truth.

14. Relationship satisfaction (Hendrick, 1988)

A	B	C	D	E
Poorly		Average		Extremely Well

RS - 1 = How well does your partner meet your needs?

RS - 2 = In general, how satisfied are you in your relationship?

RS - 3 = How good is your relationship compared to most?

RS - 4 = How often do you wish you hadn't gotten in this relationship? (R)

RS - 5 = To what extent has your relationship met your original expectations?

RS - 6 = How much do you love your partner?

RS - 7 = How many problems are there in your relationship? (R)

15. Relationship commitment (elaborated version of Rusbult et al., 1998)

My Goals for the Future of our Relationship

Instructions:

To what extent does each of the following statements describe your feelings regarding your relationship? Please use the following scale to record an answer for each statement listed below.

0	1	2	3	4	5	6	7	8
Do Not Agree At All								Agree Completely

Reference:

- This is an elaborated version of the commitment measure cited in:
Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The investment model scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships*, 5, 357–391.
- This 15-item measure was used in: Rusbult, C. E., Kumashiro, M., Kubacka, K. E., & Finkel, E. J. (2009). “The part of me that you bring out”: Ideal similarity and the Michelangelo phenomenon. *Journal of Personality and Social Psychology*, 96, 61-82.

RC - 1 = I will do everything I can to make our relationship last for the rest of our lives.

RC - 2 = I feel completely attached to my partner and to our relationship.

RC - 3 = I often talk to my partner about what things will be like when we are very old.

RC - 4 = I feel really awful when things are not going well in our relationship.

RC - 5 = I am completely committed to maintaining our relationship.

RC - 6 = I frequently imagine life with my partner in the distant future.

RC - 7 = When I make plans about future events in life, I carefully consider the impact of decisions on our relationship.

RC - 8 = I spend a lot of time thinking about the future of our relationship.

RC - 9 = I feel really terrible when things are not going well for my partner.

RC - 10 = I want our relationship to last forever.

RC - 11 = There is no chance at all that I would ever become romantically involved with another person.

RC - 12 = I am oriented towards the long-term future of our relationship (for example, I imagine life with my partner decades from now).

RC - 13 = My partner is more important to me than anyone else in life--more important than my parents, friends, etc.

RC - 14 = I intend to do everything humanly possible to make our relationship persist.

RC - 15 = If our relationship were ever to end, I would feel that my life was destroyed.

Key:

Total: Take the average of all 15 items

Subscales:

Intent to persist: Items 1, 5, 10, 11, and 14

Attachment: Items 2, 4, 9, 13, and 15

Long-term orientation: Items 3, 6, 7, 8, 12

16. Communal strength (Mills, Clark, Ford, & Johnson, 2004); Perception of partner's communal strength (adapted from Mills et al., 2004)

0	1	2	3	4	5	6	7	8	9	10
Not at all										Extremely

CSM - TP: Towards Partner

CSM - TP1 = How far would you be willing to go visit [Your Partner] ?

CSM - TP2 = How happy do you feel when doing something that helps [Your Partner] ?

CSM - TP3 = How large a benefit would you be likely to give [Your Partner] ?

CSM - TP4 = How large a cost would you incur to meet a need of [Your Partner] ?

CSM - TP5 = How readily can you put the needs of [Your Partner] out of your thoughts?

CSM - TP6 = How high a priority for you is meeting the needs of [Your Partner] ?

CSM - TP7 = How reluctant would you be to sacrifice for [Your Partner] ?

CSM - TP8 = How much would you be willing to give up to benefit [Your Partner] ?

CSM - TP9 = How far would you go out of your way to do something for [Your Partner] ?

CSM - TP10 = How easily could you accept not helping [Your Partner] ?

CSM - PT: Partner Towards Subject

CSM - PT1 = How far would [Your Partner] be willing to go visit you?

CSM - PT2 = How happy does [Your Partner] feel when doing something that helps you?

CSM - PT3 = How large a benefit would [Your Partner] be likely to give you?

CSM - PT4 = How large a cost would [Your Partner] incur to meet a need for you?

CSM - PT5 = How readily can [Your Partner] put the needs of you out of their thoughts?

CSM - PT6 = How high a priority for [Your Partner] is meeting the needs of you?

CSM - PT7 = How reluctant would [Your Partner] be to sacrifice for you?

CSM - PT8 = How much would [Your Partner] be willing to give up to benefit you?

CSM - PT9 = How far would [Your Partner] go out of your way to do something for you?

CSM - PT10 = How easily could [Your Partner] accept not helping you?

17. Demographics

GEN = Gender

1. Male
2. Female

3. Prefer to identify in another way

AGE = Age

1. 18-24 years old
2. 25-50 years old
3. 51 years of age or older

ETHN = Ethnicity

1. American Indian or Alaska Native
2. Asian
3. African American
4. Hispanic
5. Native Hawaiian or Other Pacific Islander
6. Caucasian
7. Two or more races
8. Other

SEXORI = Sexual Orientation

1. Straight/heterosexual
2. Gay/homosexual
3. Bisexual
4. Queer
5. Other

EDU = Highest level of education

1. Some high school
2. Graduated high school

3. Some college
4. Bachelor's degree
5. Master's degree
6. Doctoral degree
7. Other

FIND = How did you find out about this study?

1. Friend/Family member
2. Flier
3. Online posting
4. Other

Appendix C

Dyadic Study In-Laboratory Measures

1. Positive and Negative Affective Schedule (PANAS, Watson et al., 1988; modified)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then make a slash in the scale next to that word according to how you feel. (Example: I ___ I _____ I) Indicate **to what extent you feel this way right now, that is, at the present moment**. Use the following scale to record your answers.

1 _____ 5

very slightly or not at all a little moderately quite a bit extremely

Emotion items are identical to items in the pre-laboratory survey

2. General Primary Expresser (GPE) Questionnaire

Please answer the following questions as it pertains **only to the last two discussions** you had with your partner (the ones on **your** chosen topics):

1. To what extent did you experience happiness during your discussions?

1 2 3 4 5 6 7

Not at all Extremely

2. If you experienced happiness, how much did you express the happiness (verbally or by clear facial and vocal tone) to your partner?

1 2 3 4 5 6 7

Not at all Extremely N/A

3. To what extent did you experience sadness during your discussions?

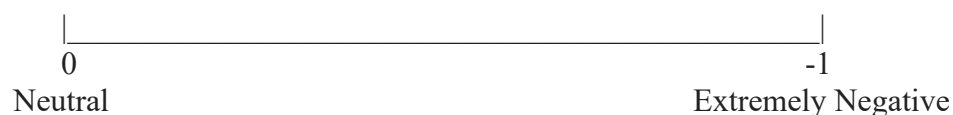
1 2 3 4 5 6 7

Not at all Extremely

*****Please read for further instructions:** It is common for people to express both positive and negative emotions when talking about an event. (For example, if you talk about a time where you were excited but then the exciting event was disappointing, you would probably be expressing both excitement and disappointment. In this situation, you would want to be able to mark how positively you felt separately from how negatively you felt).

Please mark on the **first line** below how **negative** your expression was and on the **second line** below how **positive** your expression was.

Mark on the following lines:



2. How much were you expressing your emotions **verbally** (using words, e.g. I was really *happy* when I got that good news or that was such a *fun* trip)?



3. How positive or negative was your **verbal** emotional expression?

Mark on the following lines:



6. To what extent did your partner experience anger during your discussions?

1	2	3	4	5	6	7
Not at all						Extremely

7. If your partner experienced anger, how much did he (or she) express the anger (verbally or by clear facial and vocal tone) to you?

1	2	3	4	5	6	7	
Not at all						Extremely	N/A

7. To what extent did your partner experience anxiety during your discussions?

1	2	3	4	5	6	7
Not at all						Extremely

9. If your partner experienced anxiety, how much did he (or she) express the anxiety (verbally or by clear facial and vocal tone) to you?

1	2	3	4	5	6	7	
Not at all						Extremely	N/A

10. To what extent did your partner experience other emotions during your discussions?

1	2	3	4	5	6	7
Not at all						Extremely

11. To what extent did your partner express other emotions (verbally or by clear facial and vocal tone) during your discussions?

1	2	3	4	5	6	7
Not at all						Extremely

1. How positive or negative was your partner's expression of emotion (keeping in mind the words that he (or she) said as well as his (or her) facial expressions, tone of voice, gestures, postures, etc.)?

Mark on the following lines:

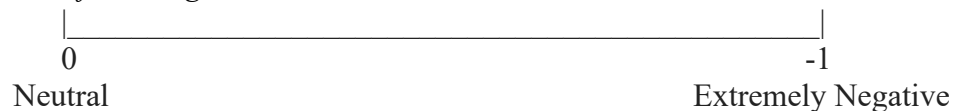


2. How much was he (or she) expressing his (or her) emotions **verbally** (using words, e.g. I was really *happy* when I got that good news or that was such a *fun* trip)?



3. How positive or negative was his (or her) **verbal** emotional expression?

Mark on the following lines:

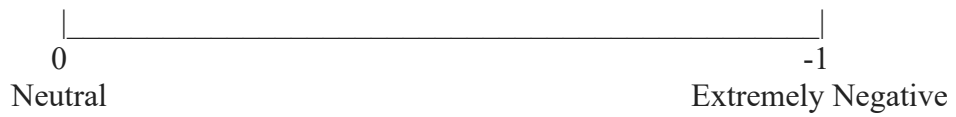
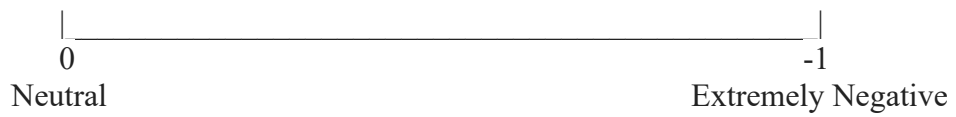


4. How much was he (or she) expressing his (or her) emotions using **body language** (e.g. facial expressions such as smiling or frowning, changing his (or her) tone of voice, speaking more quickly or slowly, or using hand or body movements)?



5. How positive or negative were his (or her) emotional expressions using **body language**?

Mark on the following lines:



6. To what degree did you feel like the emotions he (or she) was expressing matched the emotions he (or she) was feeling?



7. How much do you think you responded in a helpful way to your partner when he (or she) expressed emotion to you using **body language**?



8. How much do you think you responded in a helpful way to your partner when he (or she) expressed emotion to you **verbally**?



9. How vulnerable did your partner feel when talking to you?



10. How comfortable was your partner when talking to you?



11. Which, if any, of your partner's behaviors made you feel that your partner put him or herself "out there" with you? Describe below.

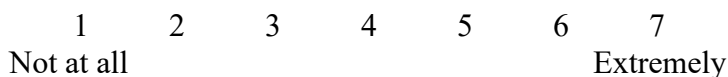
[These can include using some specific body language (e.g. facial expressions such as smiling or frowning, changing your tone of voice, speaking more quickly or slowly, or using hand or body movements) or saying something specific to your partner].

12. How positively or negatively did you feel when your partner expressed emotion to you?

Mark on the following lines:



13. How sincere was your partner's emotional expression?



14. How much did your partner want you to understand how he (or she) was feeling?



15. How intentional was your partner's emotional expression?



16. How genuine was your partner's emotional expression?



7. Negative Discussion Primary Perceiver (PP) Questionnaire

Identical to the questionnaire for the positive discussion, but with the target being the negative discussion.

8. Relationship Demographics Questionnaire

If you and your partner are married, please answer the following questions:

1. How long have you been married?
2. How long have you known your partner?
3. How long have you and your partner been romantically involved?

If you and your partner are not married, please answer the following questions:

1. How long have you known your partner?
2. How long have you and your partner been romantically involved?

Appendix D
Dyadic Study Nonverbal Coding Scheme

Nonverbal Emotional Expression Coding Scheme

Armentano-Hay-Clark Dyadic Study

A few general instructions and Notes for Coders:

Please read these instructions very carefully before beginning coding and ask questions as needed to ensure you comprehend it fully.

Please make sure to view the separate instructions for how to code video more generally and how to work Datavyu.

1) Observe and rate the five minutes [or, in some cases, less because the tape doesn't last for five minutes or more because the conversation lasts longer than five minutes] of each emotional topic discussion for one member of each couple. This means that as a coder you will be assigned to code only participant A or only participant B across all videos. Each member of the couple is the expresser for 1 positive and 1 negative topic and is the perceiver for the other 2 discussions (of their partner's 1 positive and 1 negative topics). This means that you will be watching 4 conversations per couple and the person you are watching will be the perceiver twice and the expresser twice. The ordering of perceiver and expresser as well as positive and negative topics are counterbalanced so you will not know which conversation you are watching when you begin watching.

2) Use the A or B cameras (the ones where you can see partner A or B only). *After having completely finished coding this particular couple*, then look up in the paper data from this couple whether the participant was the Expresser/Perceiver and whether this discussion was the Positive/Negative topic and record it in the spreadsheet (see the last item on this coding sheet for more instruction on this).

3) Turn off the sound completely (muted!) prior to opening Datavyu and definitely prior to viewing the clip. This is *very* important.

4) Nonverbal expression of emotion can include: **facial expressions, gestures, and postures**.

a. A note on gestures- Gestures can simply be a part of someone's behavior **without** being indicative of a particular emotion. For example, if you were giving someone directions, you would likely use your finger to point in the direction they should go. This would be considered a gesture, but it likely would not be considered an emotional expression. Please make sure that you are only including gestures that are emotional expressions in your coding.

5) You must watch each clip *two times*. This is crucial as it may be easy to miss things the first time you watch the clips. You should watch the clip the first time, make your ratings, then watch the clip the second time. Once you have finished watching the clip the second time, you can adjust your ratings if need be. Please do not watch the clips more than twice.

6) Because these tapes only capture nonverbal behavior, it is crucial that you pause *anytime* you are looking away from the screen.

7) Please make sure you read through the coding scheme carefully before beginning to view the first clip so you know just what to look for.

8) Sometimes the couple will ring the bell to signal the end of the conversation and sometimes they will not. We do encourage them to ring the bell if they are done and you should **not** interpret this as a nonverbal emotional signal.

For each clip (topic discussion), watch the full tape. We'll be asking you about how positive and negative the *expresser's nonverbal expressions* are overall.

Keep in mind that over the course of the tape an expresser might (or might not) display positive expressions, negative expressions, aroused expressions, and not aroused expressions. You will be making *overall* judgments. This means it's possible to indicate there were high amounts of positivity *and* high amounts of negativity. It's also possible that there were low amounts of positivity *and* low amounts of negativity. So too is it possible to see expressions as high in positivity and low in negativity, or vice versa. Please rate how much positivity and how much negativity you see independently of each other. Think about positive and negative expression SEPARATELY and respond accordingly.

Do not fill out your ratings as you watch the tape. Right after it ends, answer the following in your Excel spreadsheet (see the "General and Datavyu Instructions" on the drive for more detail):

Under the column that corresponds to the bolded title for each of the following questions, indicate your numerical rating for each of the following questions.

Please also make sure to record the participant ID number, your name, and the discussion number where prompted.

1) **GenNonvExp:** How much was the participant expressing his (or her) emotions using **body language** (e.g. facial expressions such as smiling or frowning, or using hand or body movements)?

1	2	3	4	5	6	7
Not at all						Extremely

****Please read for further instructions for Q2 and Q3 (on next page): It is not unusual for people to express both positive and negative emotions when talking about an event. Please mark how positive his or her expression was **separately** from how negative his or her expression was.*

For the next set of items, please use the following question and scale to indicate separate ratings for each of the 5 emotions listed in bold below. Each emotion is represented in the Excel sheet with its own column.

14) When the participant nonverbally expressed each of the following emotions, *to what extent* were they expressing the emotion?

1 2 3 4 5 6 7

Not at all intense/not expressed Most intense you can imagine

a. Happiness

b. Sadness

c. Anger/Irritation

d. Anxiety/Nervousness

e. Boredom

15) **Engage:** To what extent was the expresser engaged in the conversation with his or her partner?

1 2 3 4 5 6 7

Not at all Extremely

16) **Liking:** To what extent do **you** (as the coder) like the expresser?

1 2 3 4 5 6 7

Not at all Extremely

After you have finished all coding for the participant, go back to the original paper data and look at the order of Expresser/Perceiver and Positive/Negative discussions on the experimenter's quarter sheet. Under the column for *PostCode*, enter whether the participant you coded was the **Expresser/Perceiver (designated as 1 for Expresser and 2 for Perceiver)** and whether the topic of the discussion was **Positive/Negative (designated as 1 for Positive or 2 for Negative)**.

Appendix E

Chapter 2 Additional Analyses

These additional results include APIM models that were tested to examine the relationship between expresser and perceiver reports of the negativity and positivity of their expression within one channel of expression (positive or negative) at a time. Essentially, within just the verbal (or nonverbal channel), is there an interaction of how positive and negative the expression is?

Note that these results are broken down with an additional layer that corresponds to the channel of expression (verbal and nonverbal). These are examined as separate analyses to see how valence within one channel might interact.

As in the main body of the dissertation, analyses that involve breaking down interactions do not use z-scored variables.

I. Intentionality

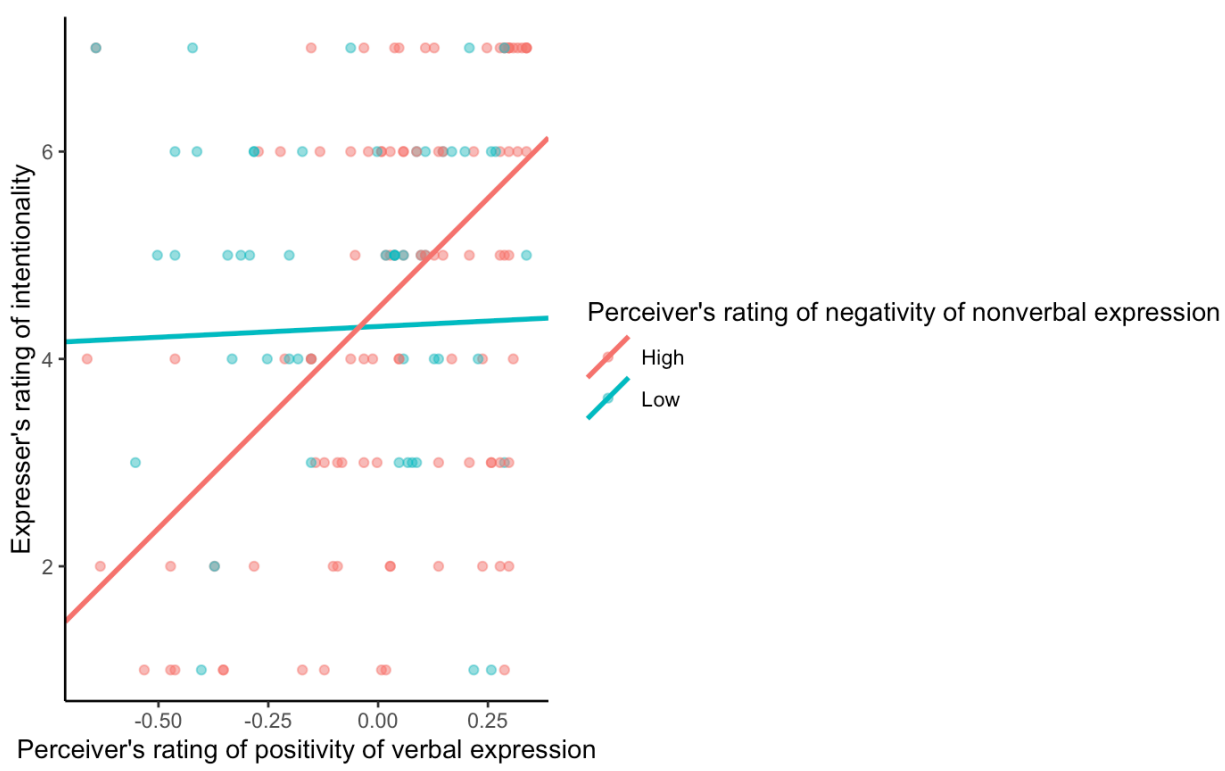
A. Positive Discussions- Valence of Verbal

An APIM model was tested to see if expresser's ratings of the positivity of their verbal expression, expresser's ratings of the negativity of their verbal expression, perceiver's ratings of the positivity of their partner's verbal expression, and perceiver's ratings of the negativity of their partner's verbal expression predict the expresser's ratings of their own intentionality. There is a significant interaction between the expresser's ratings of the positivity of their verbal expression and the negativity of their verbal expression on the expresser's ratings of their intentionality ($b = 0.25, p < .001$). When I break this down, I find that when expressers rate the negativity of their verbal emotional expression to be low, there is not a significant effect of the positivity of the verbal expression ($b = 0.21, p = .77$). However, when expressers rate the

negativity of their verbal emotional expression to be high, there is a significant effect of the positivity of their verbal expression ($b = 4.24, p < .001$), see Figure 23.

Figure 23

Interaction of the Perceiver's Ratings of the Negativity of the Expresser's Nonverbal Expression and the Perceiver's Ratings of the Positivity of the Expresser's Verbal Expression on Expresser's Ratings of Their Own Intentionality



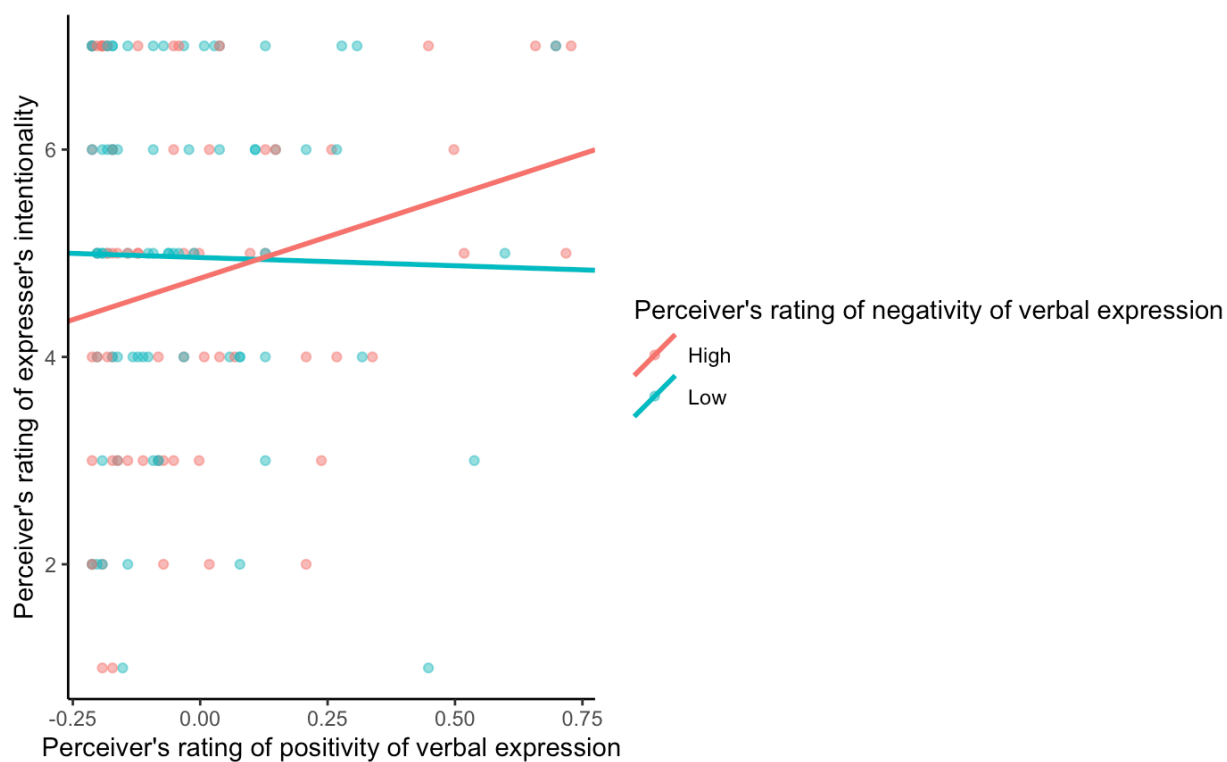
B. Negative Discussions- Valence of Verbal

Here there is a significant interaction between perceiver's reports of how positive the expresser's verbal expression is and perceiver's reports of how negative the expresser's verbal expression is on perceiver's rating of expresser's intentionality ($b = 0.17, p = .04$). When I break this interaction down, I find that when perceiver's ratings of the negativity of the expresser's verbal expressions are low, there is not a significant effect of perceiver's ratings of the positivity

of the expresser's verbal expression on perceiver's reports of expresser's intentionality ($b = -0.16$, $p = .87$). However, when perceiver's ratings of the negativity of the expresser's verbal expressions are high, there is a significant effect of perceiver's ratings of the positivity of the expresser's verbal expression on perceiver's reports of expresser's intentionality ($b = 1.60$, $p = .03$), see Figure 24.

Figure 24

Interaction of Perceiver's Ratings of the Negativity of the Expresser's Verbal Expression and the Perceiver's Ratings of the Positivity of the Expresser's Verbal Expression on Perceiver's Ratings of the Expresser's Intentionality



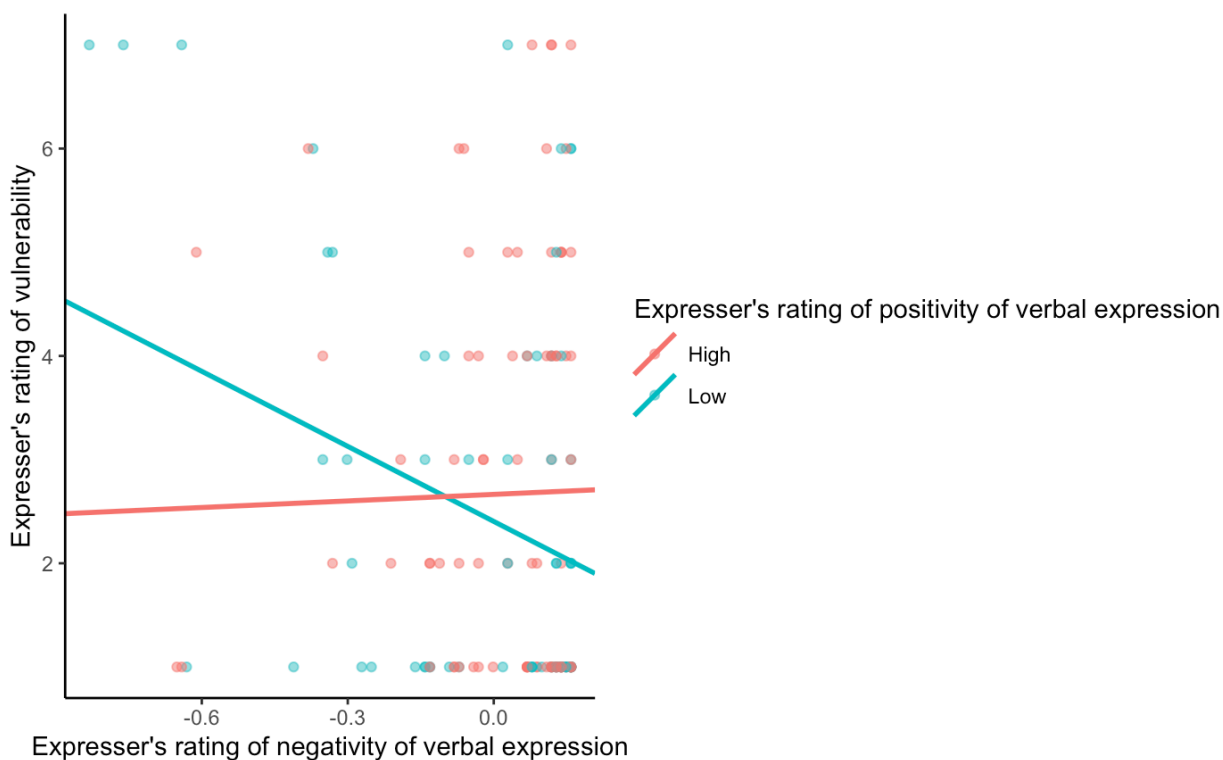
II. Vulnerability

A. Positive Discussions- Valence of Verbal

An APIM model was tested to examine whether expresser's and perceiver's reports of the positivity and negativity of the expresser's verbal expression predicts the expresser's ratings of their own vulnerability. There is a significant interaction between the expresser's report of the positivity of their own verbal expression and the expresser's report of the negativity of their verbal expression on the expresser's report of their own vulnerability ($b = 0.16, p = .02$). When I break this down, I find that when expresser's ratings of their own verbal positivity are low, there is a significant (negative) effect of the negativity of their own verbal expression ($b = -2.41, p = .002$). However, when expresser's ratings of their own verbal positivity is high, there is no significant effect of the negativity of their own verbal expression ($b = 0.21, p = .86$), see Figure 25. In other words, if my positive verbal expression is low in a positive discussion, the more negative my verbal expression, the less I see myself as vulnerable. However, if my positive verbal expression is high, the negative expression does not matter for vulnerability.

Figure 25

Interaction of Expresser's Ratings of the Positivity of Their Own Verbal Expression and the Expresser's Ratings of the Negativity of Their Own Verbal Expression on Expresser's Ratings of Their Vulnerability



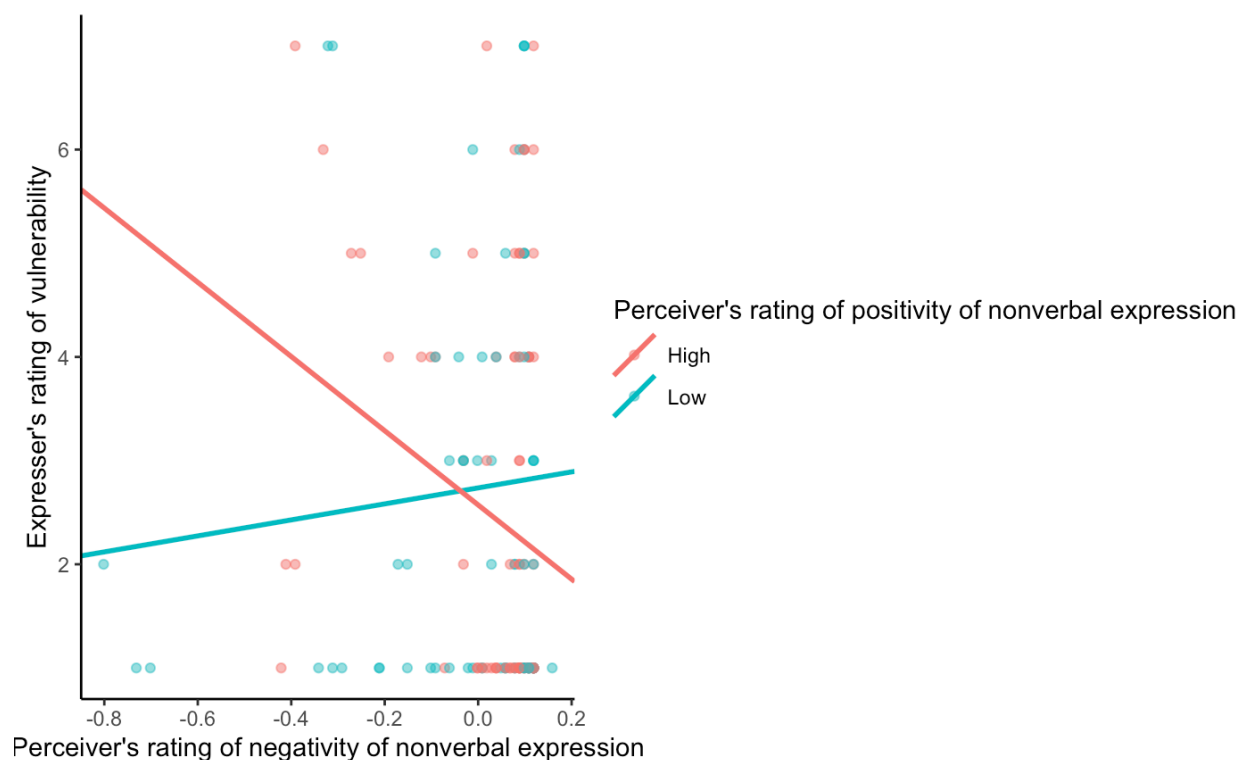
B. Positive Discussions- Valence of Nonverbal

A parallel APIM model was conducted to examine the links between expresser's and perceiver's reports of the positive and negative valence of the expresser's nonverbal expression and expresser's report of their own vulnerability. There is a significant interaction between the perceiver's report of the expresser's positive nonverbal expression and the perceiver's report of the expresser's negative nonverbal emotional expression on the expresser's report of their own vulnerability, $b = -0.23, p = .009$. When I break this down, I find that when the perceiver's ratings of the positivity of their partner's nonverbal expressions is low, there is not a significant

effect of the perceiver's ratings of the negativity of their partner's nonverbal expressions on the expresser's ratings of their own vulnerability, $b = 0.77, p = .42$. However, when the perceiver's ratings of the positivity of their partner's nonverbal expressions is high, there is a marginal (negative) effect of the perceiver's ratings of the negativity of their partner's nonverbal expressions on the expresser's ratings of their own vulnerability, $b = -3.58, p = 0.05$, see Figure 26.

Figure 26

Interaction of Perceiver's Ratings of the Positivity and Negativity of the Expresser's Nonverbal Expression on Expresser's Ratings of Their Own Vulnerability



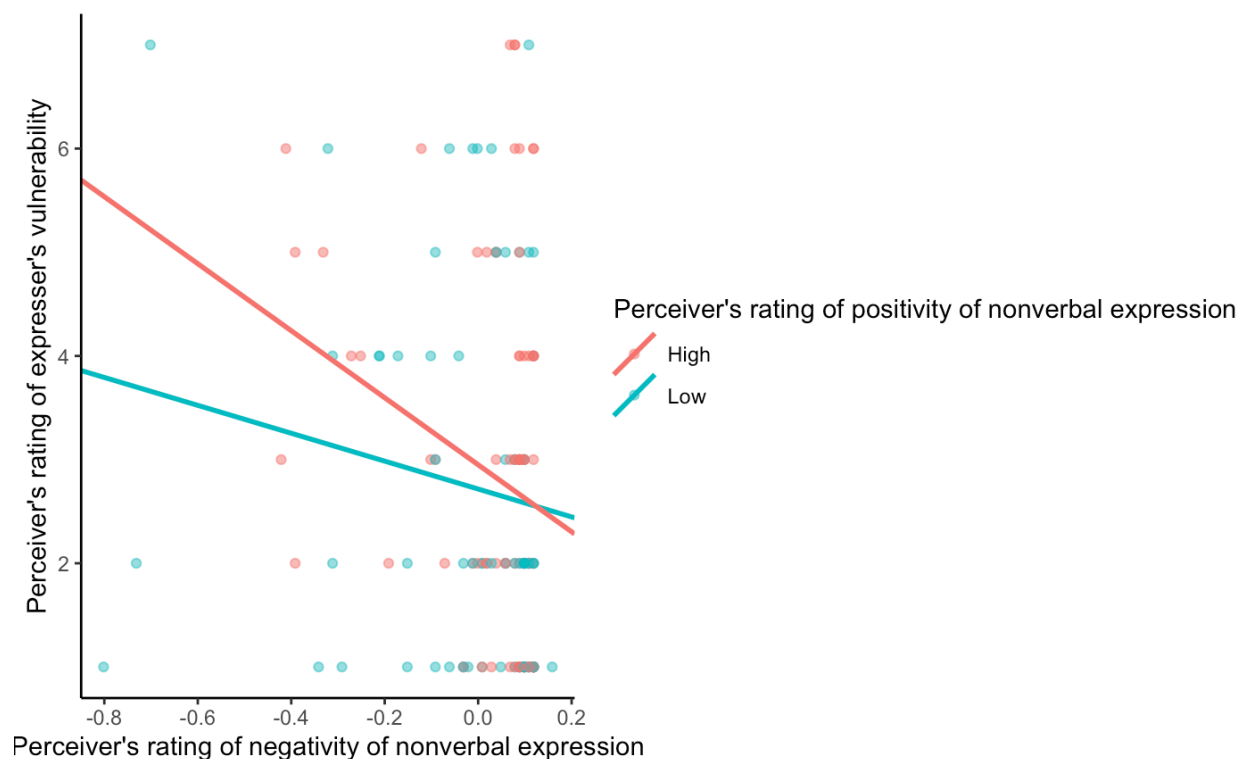
C. Negative Discussions- Valence of Nonverbal

There is a significant interaction between the perceiver's reports of the positivity and the perceiver's reports of the negativity of the expresser's nonverbal emotional expressivity ($b =$

0.18, $p = .03$) on the perceiver's ratings of the expresser's vulnerability. When I break this down, I find that when the perceiver's report of the positivity of expresser's nonverbal expression is low, there is no significant effect of the perceiver's report of the negativity of the expresser's nonverbal expression on the perceiver's rating of the expresser's vulnerability, $b = -1.35$, $p = .17$. However, when the perceiver's report of the positivity of the expresser's nonverbal expression is high, there is a marginal negative effect of the perceiver's report of the negativity of the expresser's nonverbal expression on the perceiver's rating of the expresser's vulnerability, $b = -3.23$, $p = .06$, see Figure 27. In other words, when the perceiver views the expresser's nonverbal expression to be less positive, the perceiver's reports of how negative the expresser's nonverbal expression is do not matter for how vulnerable the perceiver reports the expresser to be. However, when the perceiver views the expresser's nonverbal expression to be highly positive, the perceiver views the expresser to be (marginally) more vulnerable when their nonverbal expression is not very negative.

Figure 27

Interaction of the Perceiver's Ratings of the Positivity and of the Negativity of the Expresser's Nonverbal Expression on Perceiver's Ratings of the Expresser's Vulnerability



III. Sincerity

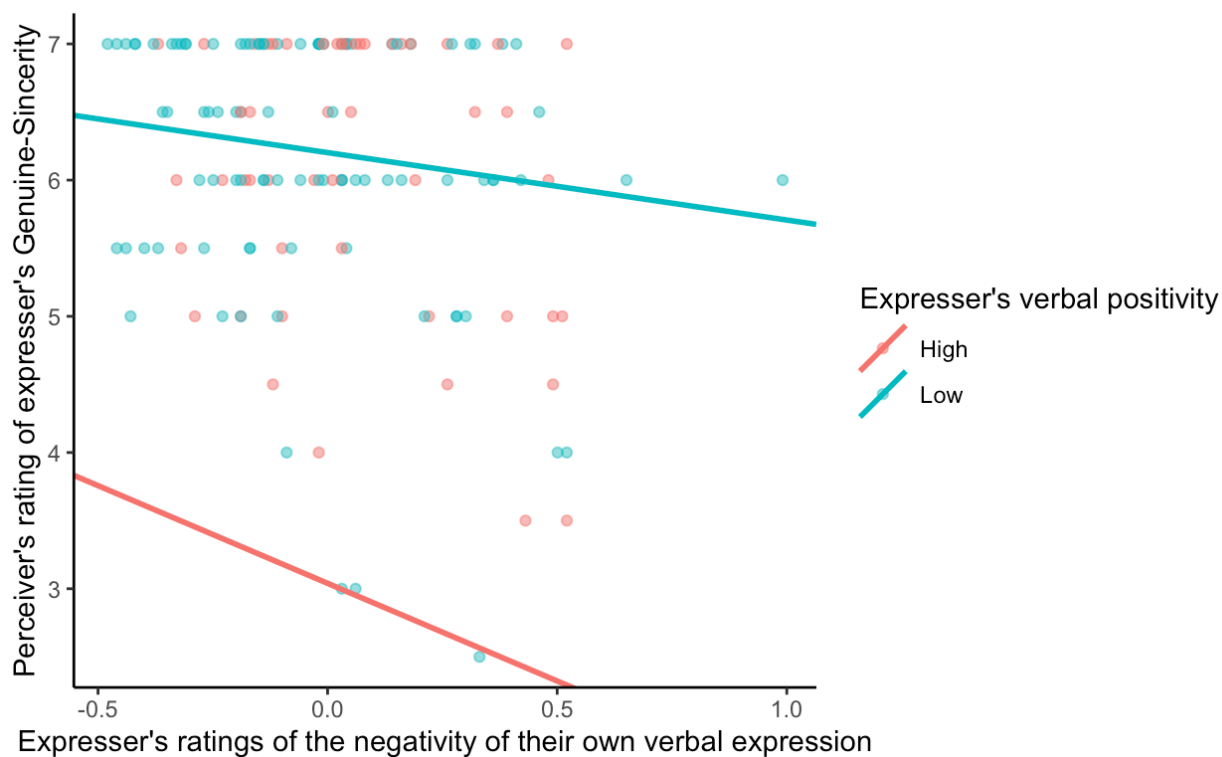
A. Negative Discussions- Valence of verbal

There was a significant interaction between the perceiver's report of how positive the expresser's verbal expression is and the perceiver's reports of how negative the expresser's verbal expression is on perceiver's ratings of how sincere the expresser is, $b = 0.20$, $p = .01$. When expresser's reports of the positivity of their verbal expression are low, there is no significant effect of expresser's reports of the negativity of their verbal expression on perceiver's reports of how sincere the expresser is, $b = -0.50$, $p = .18$. When expresser's reports of the positivity of their verbal expression are high, there is a marginally significant effect of expresser's reports of

the negativity of their verbal expression on perceiver's reports of how sincere the expresser is, $b = -1.43$, $p = .05$, see Figure 28. In other words, in a negative discussion, regardless of whether the expresser rates their verbal positivity to be low or high, there is no impact on the perceiver's ratings of how sincere the expresser is based on how positive the expresser rates their own verbal expression.

Figure 28

Interaction of Expresser's Ratings of the Positivity and of the Negativity of Their Own Verbal Expression on Perceiver's Ratings of the Expresser's Sincerity



Appendix F

Relationship Initiation Study (Chapter 4) Background Information Form

Background Information Form

Social Presence Study

- 1) Birthday: _____
- 2) Hometown: _____
- 3) Expected Graduation Year from Yale: _____
- 4) Relationship Status: _____
- 5) How much are you currently interested in forming new friendships or relationships?

1	2	3	4	5	6	7
Not at all						Very
Interested						Interested

- 6) Please explain your response to question 5:

Appendix G

Relationship Initiation Study (Chapter 4) Impression Form

This survey also included several filler items asking about the confederate's speech performance.

Impression Form

Social Presence Study

1. How much do you trust the other participant?

1	2	3	4	5	6	7
Not at all						A lot

2. How much do you think the other participant trusts you?

1	2	3	4	5	6	7
Not at all						A lot

3. How much do you like the other participant?

1	2	3	4	5	6	7
Not at all						A lot

4. How much do you think the other participant likes you?

1	2	3	4	5	6	7
Not at all						A lot

5. How interested would you be in developing a friendship or relationship with the other participant?

1	2	3	4	5	6	7
Not at all Interested						Very Interested

Appendix H

Relationship Initiation Study (Chapter 4) Demographics and Manipulation Check Form

1. How nervous was the other participant while he (or she) was giving the speech?

1	2	3	4	5	6	7
Not at all						Very
Nervous						Nervous

2. Explain your answer to the previous question:

3. How much did you think sending websites to the other participant would help to reduce his or her nervousness?

1	2	3	4	5	6	7
Not at all						A lot

4. How familiar are you with the art history topic chosen for the second speech: famous painters of the modern art period?

1	2	3	4	5	6	7
Not at all						A lot

5. What is your age?

6. Please indicate any race or ethnicity with which you identify:

American Indian or Alaska Native

Asian

African American

Caucasian

Hispanic

Native Hawaiian or Other Pacific Islander

Two or more races

Other:

7. What is your gender?

Male

Female

Other:

8. What is your sexual orientation?

Straight/heterosexual

Same Gender/Homosexual

Bisexual

Other:

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