Affective Perspective-Taking and Anger Regulation in Adolescent Peer and Parent
Conflicts

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by

Kimberly A. Tejada

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Sarah A. Schnitker, PhD   Tina R. Armstrong, PhD
Advisor   PhD Program Director

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                                            Justin L. Barrett, PhD
                                            Acting Dean, Graduate School of Psychology

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Kimberly A. Tejada

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Abstract

The purpose of the present study was to investigate how adolescents' affective intensity and recovery from angry affect is moderated by parent-adolescent and peer-peer relationships for the particular conflict resolution strategy of affective perspective-taking. By method of a novel smartphone intervention, Take Perspective, this study offers a unique contribution to the field for the employment of technology in socioemotional training towards contextualizing positive youth development. These findings indicate that a brief, affective perspective-taking intervention can ameliorate post-conflict anger. Additionally, the role of relationship type, participants' trait variables, and demographic factors were analyzed for impact in differentially influencing adolescents' peak anger and regulation of anger post-conflict. Implications for best practice, methodological limitations, and future directions are discussed.

Keywords: adolescent, conflict, anger, affective perspective, peer, parent

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Conflicts

Adolescence is riddled with socioemotional challenges perhaps unlike any other

stage of life. This is largely due to a confluence of overlapping internal (biological and

psychological) and external (social and cultural) changes that give rise to frequent

conflicts (Broderick & Blewitt, 2015). Laursen (1995) documented that high-schoolers

reported an average of seven to eight conflicts per day, which were mostly had with

mothers, followed by friends, significant others, dads, and non-parent family members.

Scholars noted that these daily disputes are neither inherently good nor bad (Adams &

Laursen, 2007); rather, disputes are typical, social episodes central to the project of

ongoing identity formation and development. However, research has shown that

exceedingly lengthy and hostile conflicts are likely to have deleterious effects on

relationship maintenance and youths' socioemotional health (Moed et al., 2015).

In addition to duration, valence, and intensity, Laursen and Hafen (2010) asserted

that the potential benefits or detriments of conflict depend on the conflict regularity,

management of the dispute (i.e., its entrance and exit), and the significance of the

conflictual relationship. Laursen and Hartl (2015) espoused that positive growth is

facilitated by constructive conflicts; conversely, hindered relational, affective, and

behavioral adjustment is associated with frequent destructive conflicts. In other words,

conflicts may either disintegrate social ties or improve connections by fostering

opportunities for intrapersonal and interpersonal attunement, role definition and

refinement, and optimized communication (Shulman & Laursen, 2002).

As adolescents undergo the physical and hormonal metamorphoses that accompany puberty, they are inseparably embedded in dyadic and communal contexts that shape their self-view in a reciprocating process (Broderick & Blewitt, 2015). Successful affective navigation of social dilemmas within relationships hinges upon the adaptive employment of intrapersonal and behavioral emotion regulation tactics (Greenberg, 2013). Emotion cannot be disentangled from higher cognitive processes but is, instead, a key mediator of cognition and action that can be accessed as a resource. The capacity to modulate emotions, such as anger, carries noteworthy life consequences. Thus, youths' emotion regulation is a momentous area of empirical investigation that can be better understood by exploring key facets of emotional intelligence.

Emotional Intelligence and Anger Regulation

Salovey and Mayer (1990) defined emotional intelligence as the capacity for perception, understanding, and expression of emotions with the ability to use and manage emotions so as to foster self-development. Further, emotional intelligence encompasses specific competencies—namely, perceiving feelings accurately; recognizing when information is affect-laden; engaging feelings for the facilitation of thinking; and managing the impact of emotions for the promotion of intellectual progress and affective well-being (Salovey & Mayer, 1990).

Take for instance, anger, which is a key variable in this study. Anger alerts people to injustices and fuels healthy protest (e.g., a fight response) to perceived threats, setbacks, or violations of all sorts (Zeman, Shipman, & Suveg, 2002). Anger is primarily adaptive and not inherently bad; however, unchecked volatility (overt, explosive anger) or fury turned inward (covert, implosive anger) can lead to self- or other-directed

destruction when improperly managed. Both unbridled expressivity (in an overt, externalizing sense) and suppression (in a covert, internalizing sense) may lead to outcomes of poor mental, relational, and physical health (John & Gross, 2004); higher incidence of psychopathology (Gross, 2008); social disruption and reduced social acceptance (Perry-Parrish et al., 2015).

Others have linked maladaptive emotional coping to heightened risk for mood disorders, binge eating and obesity, substance use addiction, and a broad array of medical problems related to impaired functioning in the coronary, vascular, and immune systems (Kemeny & Shestyuk, 2008; Schutte, Malouff, Thorsteinsson, Bhullar & Rooke, 2007). Due to these established associations between poor coping with pervasive negative affect and unfavorable health outcomes, negotiating the intensity and modulating occurrences of anger are invaluable components of socioemotional fitness. Specific competencies of emotional maturity that may be strengthened include emotion perception, expression, appraisal, and redirection of affective energy (Morris, Silk, Steinberg, Myers, & Robinson, 2007). Salisch, Zeman, Luepschen and Kanevski (2014) submit that anger management, affective awareness, and appropriate disclosure of emotion are broad classes of socioemotional competence.

Socioemotional development. Considering how socioemotional capacities develop over time, neuroscientists and theorists have converged on the understanding that cognition and emotion are inextricably interwoven from the earliest stages of social and biological maturation (Thompson & Winer, 2013). Children gain their sense of emotional stability or instability from parents (or alternate caretakers) who serve as primary security attachments and social references. Beginning in the home, children are socialized to

express or suppress emotions based on caretaker receptivity, consistency, and expectations in the household (Broderick & Blewitt, 2015). Additionally, children internalize standards for how their emotions are to be handled based on cultural norms (for variables of age, gender, ethnicity, birth order, etc.) that get promulgated via dyadic interactions across private, public, and media outlets (Broderick & Blewitt, 2015).

As children become adolescents, failure to meet internalized standards often leads to the experience of *meta-emotions*, or experiencing emotion about one's internal experience, which guide future actions and color the affective landscape of experience. Social reinforcement shapes affective expression, and affective expression influences social outcomes in a manner that is iterative. Adolescents who are highly reactive have fewer friends and more disrupted patterns of relating (Laursen & Hartl, 2015; Perry-Parrish et al., 2015); and males, particularly, are socialized to limit disclosure of feelings (Salisch et al., 2014).

Socioemotional learning. Though humans are born 'feelers,' most higher-order self-soothing and emotional regulation skills need to be fine-tuned via social interactions (Zeman, Shipman & Suveg, 2002). For example, babies cry at whim and cannot demonstrate theory of mind or the ability to take others' perspectives. Adolescents, however, must learn how to inhibit impetuous emotional expression and voluntarily engage in self-regulation and perspective-taking techniques to navigate social scenes with competence. But because socioemotional intelligence must be honed through firsthand experience over a lifetime, demonstrating in-the-moment self-regulatory skills (i.e., rechanneling energy to avoid rumination) may be specifically difficult for adolescents who lack role models and embodied, contextualized practice (Perry-Parrish et al., 2015).

Self-control and emotional regulation. Self-control and emotional regulation are distinct but related constructs that encompass common key characteristics. For instance, it is impossible to emotionally-regulate without self-control, and emotion regulation is marshalled in the effort to control oneself. Tangney, Baumeister, and Boone (2004) conceptualized self-control as being able to "override or change one's inner responses, as well as to interrupt undesired behavioral tendencies and refrain from action" (p. 275). Controlling for social desirability, Tangney and colleagues found that those high in dispositional self-control reported better relationship satisfaction, interpersonal accommodation, secure attachment, empathic perspective-taking, and emotional responses among an array of personal and interpersonal benefits. Self-control aids in facilitating the capacity to suspend one's personal point-of-view to see a situation from another's point of vantage (Tangney et al., 2004). Further, Tangney and others found a strong, negative correlation between self-control and angry affect, spiteful intentions, proclivities towards and displays of aggression, and rumination. High self-control individuals are disinclined to utilize maladaptive coping and instead employ optimal strategies for the effective management of affect.

Complicating the relationship between self-control and emotional regulation, Wegner (1997) asserted that attempting to control one's mental processes does not always result in achieving a desired mental state; instead, the least desired state of mind is produced. This phenomena he coined *ironic process* has interesting implications for people who attempt to avoid feeling negative. Greenberg (2013), who pioneered Emotion-Focused Therapy, argued that avoidance of pain—which is a form of emotional blunting—is the root cause of most psychopathology. Paradoxically, emotional

suppressors may be amplifying the very moods they are attempting to silence. Research

verifies that, when people actively try to avoid feelings, they gamble the chance of

prolonging and intensifying states of negative affect (Wegner, 1997). This complicates

matters because people cannot reliably suppress negative feelings by sheer mental effort.

The best mood repair strategies, then, begin with the nonjudgmental acceptance of

emotion valence, intensity, and physiological symptoms (Greenberg, 2013). Emotional

distress can be managed from this perspective via meaning-making, provided empathic

attunement in intersubjective contexts.

     A social task with social repercussions. Humans are fundamentally dialogical

and interdependent beings. Emotional experiences of pain and pleasure—both rupture

and healing—and opportunities to self-regulate unfold in dyadic settings. Others serve as

affirming or disaffirming characters—soothers and provokers—and as referential figures

who impact our appraisals of social situations (Morris et al., 2007). Learning when to

restrain versus when and how to express emotions requires a particular acumen of self-

regulatory control that is essential to, and ultimately consequential for, interpersonal

navigation. How people handle their emotions influences whether social partners feel

inclined to draw near or retreat from them. Unfortunately, those with disagreeable

personalities are at considerable risk for social rejection, which may only perpetuate

antisocial or isolative actions (Laursen & Hartl, 2015). In a German sample of 380

youths, Salisch and colleagues (2014) found that patterns of nonconstructive anger

regulation and unwillingness to self-disclose feelings were associated with lower peer

acceptance, lesser friendships, and heightened risk for the breakdown of reciprocal

friendships. As shown by research, a lack of regulatory skills can drastically inhibit an

adolescent's ability to form relational bonds, which are especially crucial to building self-concept and confidence.

Relational Influence on Adolescent Conflict and Affective Perspective-Taking

　　　　Contextualizing skills in conflict dyads. In the past decade, numerous socioemotional training systems and mental health apps have become available to the public (Kenny, Dooley, & Fitzgerald, 2016). The prevailing emphasis thus far has been on teaching social, emotional, and characterological skills to single individuals rather than actors embedded in systems and dyads. Most of these training systems are decontextualized (i.e., removed from reality-based outcomes) and empirically untracked. However, emotion regulation skills ultimately bear social impact. What remains unknown is the degree to which self-regulatory skills work in all relationships or vary by context. Although differences between parent-adolescent and peer-peer relationships are well documented for affect and symmetry, there is limited knowledge about how specific strategies of emotion regulation play out in different types of conflicts. Currently, there is a gap in the literature on relationship type as an important variable when teaching adolescents how to self-regulate. The aim of the current study is to fill the gap and promote a better understanding of the differential effectiveness of affective perspective-taking by adolescents in inter-generational versus intra-generational conflicts.

　　　　Parent-adolescent influence. Though it is empirically supported that peers gain an influential role in shaping adolescents' identity formation, Van Doorn, Branje, and Meeus (2011) found that the parent relationship has always been a vital influence on children. In a laboratory-based stress task, Oppenheimer et al. (2016) established that lower parental anxiousness and parental modeling of positive behaviors provide a buffer

for adolescents' negative affectivity in navigating peer-to-peer conflicts. Spillover effects from parent relationships to friendships were noted for both early-to-middle and middle-to-late adolescents in their approach to conflict resolution over time (Van Doorn, Branje, VanderValk, De Goede, & Meeus, 2011). Similarly, in a Polish sample (*M* age = 13.72), adolescents' higher reports of family satisfaction were predicted by lower parental aggression and parents' seeking to deescalate and compromise with their children (Lachowska, 2016). Moed and colleagues (2015) noted that parental failure to deescalate conflicts put youths at increased risk for developing maladaptive, conflict-navigation habits.

Adding to this body of research, a large study using an international sample (*N* = 1,365), including youth from Mainland China, Russia, and the US, revealed that parents' inflexible authority, or punitiveness, was the most robust predictor of conflict across ethnicity, cultures, and gender (Bush, Peterson, & Chung, 2013). Due to the uneven power distribution and obligatory nature of parent-adolescent relationships—compared to the symmetrical, voluntary, and egalitarian nature of peer-peer relationships—Laursen, DeLay, Richmond and Rubin (2016) note that parent-adolescent relationships may be especially "sensitive to the affective tenor" of conflict and its aftermath (p. 1110).

Peer-peer influence. In contrast, researchers espoused that peer-peer conflicts are mostly benign and associated with low arousal. In other words, conflict with peers is experienced as less negative initially, and recovery to baseline mood occurs more quickly (Laursen, 1993b). Contrary to adolescents' parental disputes, special care is taken at the peer-to-peer level to avoid dissolution of these relationships (Laursen, 1993a). In the same vein, Laursen (1993b) found that peer conflicts were linked to enhanced post-

conflict relations, suggesting that adolescents regard peer-peer relationships as more fragile and transient. Youths manage peer disputes with less coercion and more mitigation to avoid disbanding impact but appear to be less concerned about relationship maintenance in other conflicts (Laursen, Hartup & Koplas, 1996). Adams and Laursen (2004) observed that adolescents' conflicts with parents more frequently resulted in post-conflict "neutral or angry affect, power-assertive resolutions, and win-lose outcomes; [and] friend conflicts more often [resulted in] friendly affect afterward, disengaged resolutions, and equal or no outcomes" (p. 97). A reason for this may be that parents are bound to these relationships, so teens carry less of a burden of maintenance. Alternatively, adolescents may find it difficult to take the perspective of parents because of role unfamiliarity and cohort differences.

Affective Perspective-Taking as a Form of Empathy

The literature indicates that certain emotion regulation strategies may work better for conflict navigation of particular relationships; but the particulars of which strategies to default to for which relationships is unknown. The aim of the current study is to determine if the strategy of taking the affective perspective of a peer (compared to an adult) is easier for adolescents given age and role similarities with peers. Previous research has suggested that adolescents will have an easier time taking perspective of peers who they more likely think of as their equals. This question of best fit—strategy with type of relationship—carries significant import because the most adaptive individuals may not only need to know when and how to emote, but also where and with whom to exert different strategies for emotional control.

Desiring a better classification for the construct empathy, Decety and Cowell (2014) proposed to discard the blanket term empathy for greater precision. In addition to emotional sharing and empathic concern, Decety and Cowell (2014) asserted that a component of empathy involves *affective perspective-taking*. Affective perspective-taking, which is the intervention analyzed in the present study, is a powerful emotion-regulation strategy that can elicit empathic concern and hospitality for improved social-moral relating. For decades, researchers have linked perspective-taking to greater prosocial behavior and altruistic tendencies (Eisenberg & Strayer, 1990). Scholars have noted that taking another's perspective boosts the extent to which intersubjective similarity is felt, and that taking another's perspective increases the probability of altruistic generosity (Goldstein, Vezich, & Shapiro, 2014). In an examination of conflict mediation in intergroup settings, Gutenbrunner and Wagner (2016) confirmed prediction that taking another's perspective increases feelings of affinity toward group representatives, mediated by empathy and feeling understood. Moreover, in a study with 103 young adult dyads, Nelson, Laurent, Bernstein and Laurent (2016) found that physiological attunement during a dispute was greater for those in the perspective-taking condition compared to those in mindfulness or control conditions. Empathy is aroused when affective perspective-taking is engaged, and the effect is most salient when others' emotion-states, as compared to cognitive states, are imagined (Oswald, 1996).

As affective-perspective taking relates to conflict mitigation, de Wied, Branje and Meeus (2007) observed that highly empathic participants were able to manage conflict more constructively than those with low trait-level empathy. Empathy is requisite for the enablement of movement towards an offender. Specifically, *dispositional affective*

empathy is linked to adaptive regulation and decreased conflict engagement (de Wied et al., 2007). Van Lissa, Hawk, Branje, Koot and Meeus (2016) suggested that lower empathy in adolescence may indicate and predict greater rates and intensity of conflict. Adolescents who are highly aggressive evince lower levels of both cognitive and affective empathic capacity (Euler, Steinlin, & Stadler, 2017). Thus, early detection and primary intervention of empathic deficiencies can potentially interrupt bad habits that underlie coercive, conflictual interactions (Van Lissa et al., 2016).

The Present Study

Researchers and a design team with the Thrive Center for Human Development crafted an app-based character intervention called *CharacterMe* to help adolescents develop character strengths (e.g., empathy, patience, and self-control) and emotion regulation competencies. Expanding on burgeoning literature which suggests that technology may be used as a skill-building vehicle to promote mental health and social wellness amongst youth (Kenny et al., 2016), an overarching goal of the Thrive Lab has been to bridge theory and practice by devising empirically-sound, effective, attractive, and translatable interventions for a young audience. Nested among other conflict resolution tasks on the *CharacterMe* app, the focus of the present study was on the *Take Perspective* challenge. The aim behind this intervention was to provide adolescents with a tool to help them to mindfully consider how their feelings, behaviors, and thoughts are interrelated; to strengthen their capacity for empathy via perspective-taking; and to optimize their emotional and behavioral tendencies for overall well-being.

Within the *Take Perspective* task, participants were invited to: (a) Reflect on a recent conflict and provide information about who the conflict was with; (b) Provide a

brief synopsis of the conflict; (c) Rate how emotional they were at their most negative point; (d) Rate how emotional their conflict partner likely felt during the conflict; (e) Take that person's affective perspective for a full, timer-enforced minute; and (f) Report their post-intervention emotion in response to the "How do you feel now?" question.

To address the aforementioned gaps in literature, particular attention was invested in understanding if intergenerational (parent) and intra-generational (peer) relationships might differentially moderate affective perspective-taking in terms of adolescents' anger regulation. The rationale behind this undertaking is that the hierarchical (parent) versus egalitarian (peer) relationship type makes a difference; and that, for goodness-of-fit, relationship type may be used to determine which emotion regulation tactic to employ for the navigation of myriad conflicts.

Hypotheses

Multipart hypotheses relate to the efficacy of the affective perspective-taking intervention in addition to dyadic and actor variables as measured by adolescents' anger and attenuation.

Participants' peak anger. First, (H1), I predicted that participants' initial (pre/peak) negative affect ratings would differ based on relationship type; specifically, adolescents' reported conflicts with peers would have lower negative affect ratings than reported conflicts with adults.

Partners' anger. Second, (H2), I predicted that participants' ratings of their conflict partner's negative affect would differ based on relationship type such that participants' ratings of their peers' emotions would be less negative compared to ratings of adults' negative affect.

Participants' anger attenuation. Third, (H3a), I predicted that participants reporting on conflict, regardless of who they conflicted with, would experience a decrease in negative affect on the participant post-intervention question, "How angry do you feel now?" Additionally, (H3b), I predicted that the attenuation of participant peak-to-post negative affect would differ based on relationship, such that participants who reported on peer-to-peer conflict would show a greater reduction in negative affect compared to those reporting on intergenerational (adult) conflict.

Trait variables. Concerning actor variables, first, (H4a), I hypothesized that higher self-regulatory ability (per self-report ratings on the CAMS subscale) would correlate with lower initial negative affect ratings and predict a greater reduction of participant peak-to-post negative affect. Second, (H4b), I hypothesized that lower baseline levels of anger dysregulation (per the CAMS subscale) would correlate with lower initial negative affect ratings and predict a greater reduction of participant peak-to-post negative affect. Third, (H4c), I hypothesized that higher trait-level self-control would correlate with lower initial negative affect ratings and predict a greater reduction of participant peak-to-post negative affect.

Method

Participants

Adolescents were recruited from public and private high schools in Southern California using convenience sampling. Participants' fluency in English and access to either a smartphone or the internet with a working email address were required. Parents provided permission for every minor and researchers informed assenting adolescents that they had the freedom to drop out at any time for compensation of phases completed.

Participants completed both an initial battery of surveys and the *Take Perspective* challenge. After data cleaning, participants who reported that they completed the *Take Perspective* intervention without listing a conflict partner or conflict (e.g., "Nobody" and "N/A") were deleted (*n* = 44) for a final sample of 328 conflict cases representing 328 participants.

A majority of the participants were female (64.5%) compared to males (34.9%); 7 participants omitted a response and 2 participants identified as transgender. Participants' age ranged from 15 to 19 with a mean age of 16.08 (*SD* = .94). Ethnically, the participants identified as Asian/Asian American (43.9%), Latino/a (27.1%), White/Caucasian (13.4%), bi/multi-racial (8.5%), and other/missing (7%). When asked to describe the relative wealth of their family, participants identified as predominantly middle class (84.5%)—31.1% lower-middle, 40.9% middle-middle, and 12.5% upper-middle—and 36 participants identified as poor (11%), 12 omitted a response, 2 indicated very poor, and 1 indicated upper class. Responses to "Do you believe in some type of supernatural force, god, or higher power?" were mostly yes (57%), followed by unsure (27.4%), no (13.7%), and no answer (1.8%). Religiously, participants were Catholic or Protestant Christian (47.3%), none and/or spiritual (25.3%), Buddhist (13.1%), atheist (5.8%), and missing/other (8.5%).

Procedure

This study is nested in a larger, character-building mega-study that involved pre-intervention measurement, a 2-week app intervention, and post-measurement at three time points. However, only pre-test data (used to obtain demographic information and self-ratings on trait measures) and data from the 2 weeks of app use are the focus of the

present examination. After taking the initial battery of surveys at pre-test, adolescents

engaged in three character-building activities per day for 2 weeks via an easy-to-access

smartphone app or web-based platform. To access the *Take Perspective* activity within

the *CharacterMe* app, participants navigated to a "Fix a Conflict" page where, they: (a)

Reflected on a recent conflict and named the offender; (b) Provided a short description of

the conflict; (c) Rated how emotional they were at their most negative point; (d) Rated

how emotional the offender may have felt; (e) Assumed the offender's affective

perspective for a timer-enforced minute; and (f) Reported their post-intervention anger in

response to the question, "How do you feel now?" Values for each emotion question

(participant-pre/peak, conflict partner, participant post-intervention) ranged from 0 (*not

at all*) to 100 (*extremely*) and were reported on a Likert-scale slider. It should be noted

that if adolescents left the sliders for self-reported affect untouched at the midway point,

this was recoded from "N/A" to "50" or basically neutral on the item if participants

showed active engagement on the other self-report items. Lack of engagement across

self-report questions was considered invalid so these cases were removed.

Measures

      Anger regulation. The Children's Anger Management Scale (CAMS; Zeman,

Shipman, & Penza-Clyve, 2001) was developed to assess the anger management

capacities of children in subcategories of inhibition, dysregulation, and coping. However,

adolescents in this sample answered just two of the three subscales—anger

regulation/coping (four items) and anger dysregulation (three items)—for a total of seven

items. A sample of the anger dysregulation subscale—which essentially concerns

problematic anger—states, "I say mean things to others when I'm mad," whereas a

sample item from the anger regulation and coping subscale—which concerns ability to handle anger—states, "When I'm feeling mad, I control my temper" (Zeman et al., 2001, p. 193). Participants responded with slightly adapted options include: 0 = *Not True*; 1 = *Somewhat True*; and 2 = *Very True*, which closely mirror the published frequency options, "*hardly ever, sometimes,* and *often*" (Zeman et al., 2001, p. 191). Higher scores designate higher levels of the category (e.g., dysregulated anger expression and emotion regulation coping). Suveg and Zeman (2004) offer convergent validity in a sample using children with anxiety disorders. From the original study, coefficient and test–retest reliability alphas range from .61 to .80 for the individual subscales (Zeman et al., 2001).

Self-control. This brief scale by Tangney et al. (2004) measured trait self-control—defined as "the ability to override or change one's inner responses, as well as to [inhibit] undesired behavioral tendencies"—via 13 items (e.g., "I am good at resisting temptation"). Participants reported on a 5-point Likert scale (1 = *Not at all* to 5 = *Very much*). Coefficient alphas for internal consistency and test-retest reliability were high, ranging from .83 to .89, and the measure showed good divergent and predictive validity (Tangney et al., 2004).

Interpersonal patience. Schnitker (2012) developed the 3-Factor Patience Scale, which breaks down trait patience into three subtypes: interpersonal, life hardship, and daily hassles patience. Participants in this study answered five questions in the interpersonal domain—for example: "My friends would say I'm a very patient friend" (Schnitker, 2012, p. 280). Items were reported on a 5-point Likert scale (1 = *Not like me at all* to 5 = *Very much like me*). Interpersonal patience had predictive validity on well-

being indicators and converged with self-evaluative reports on the importance of patience and the coefficient alpha for internal reliability was high, $\alpha = .80$ (Schnitker, 2012).

Demographics. Participant information was collected for demographic questions related to gender, age, household constellation, and religion.

Data Analyses

For H1 (participants' peak negative affect), I compared the means and standard deviations of participants' initial (pre/peak) anger ratings for adolescent-to-peer compared adolescent-to-adult conflicts. Likewise, for H2, (participant ratings of a partner's negative affect) I completed a mean comparison, noting the standard deviation.

For H3a (participants' negative affect attenuation), I ran a repeated-measures analysis of variance (ANOVA); and to test H3b, I ran a repeated-measures ANOVA with an interaction effect of anger attenuation across time by relationship type.

For H4a, I ran a bivariate correlation for self-regulatory ability on the CAMS subscale with participant peak and post anger ratings. I repeated bivariate correlations for H4b (anger dysregulation), H4c (self-control), H4d (patience), H4e (agreeableness and neuroticism). Regarding demographics, I compared males to females in addition to younger versus older adolescents.

Results

Preliminary Analyses

Bivariate correlations were conducted to determine the relationships between demographic and trait variables of interest. As expected, there were significant positive associations between pre-intervention negative emotion ratings (anger, sadness, and upset) and self-reported negative affect on the Positive and Negative Affect Schedule ($r =$

.16, $p < .01$, $r = .23$, $p < .01$, and $r = .23$, $p < .01$, respectively). Similarly, there were

significant negative associations between pre-intervention negative emotion ratings

(sadness and upset) and sadness regulation ($r = -.20$, $p < .01$ and $r = -.17$, $p < .01$,

respectively). Additionally, pre-anger ratings were negatively correlated with

interpersonal patience ($r = -.15$, $p < .01$), hassles patience ($r = -.18$, $p < .01$), emotional

stability ($r = -.13$, $p < .05$), and satisfaction with life ($r = -.14$, $p < .05$). See Table 1 for

full bivariate analyses. Although I did not frame hypotheses around the emotion ratings

of sad and upset, I have included them in Table 1 for purposes of these comparisons.

Findings and Treatment Effects

I did not find support for my first hypothesis that participants' initial (pre/peak)

negative affect ratings would differ by relationship type. At their worst point, participants

who reported on a conflict with a peer ($n = 134$) had an average anger rating of 66.47 (SD

$= 26.70$) on a 100-point scale, whereas participants who reported on a conflict with an

adult ($n = 64$) had an average anger rating of 66.58 ($SD = 26.87$). Thus, there were no

significant differences between adult versus peer initial anger.

Per ANOVA results, results did not support my second hypothesis, though results

did approach significance at $p = .08$. Namely, I observed the trend that participants rated

their conflict partner's negative affect differently based on relationship type, $F(1, 196) =$

3.09, $p = .08$. Participant ratings of adult conflict partners' anger were higher ($M = 60.52$,

$SD = 27.73$ than ratings of their peers' anger ($M = 53.33$, $SD = 26.51$)). Although not

significant at the $p < .05$ level, these results indicate that there were potential differences

between adolescents' report of adult versus peer anger.

Regarding the main effect of participants' anger attenuation (H3a) as well as the interaction effect of time and relationship type, I ran a repeated-measures ANOVA. In support of H3a, there was significant attenuation of anger over time, $F(1, 197) = 87.84$, $p < .001$, $\eta_p^2 = .31$. However, H3b was not supported as there was no difference in change based on relationship type, $F(1, 197) = 0.01$, $p = .93$, $\eta_p^2 = .00$. In other words, I found a main effect but no interaction effect based on anger ratings at two time points and relationship type. Additionally, I tested interaction effects for age and gender with time, but there were no significant interaction effects with these variables related to adolescents' recovery from angry affect.

Discussion

This study contributes to a body of empirical literature related to promoting positive youth development through emotion regulation practices. I found support for my central research question pertaining to negative affect amelioration via engagement with a brief, perspective-taking intervention. By and large, adolescents were able to successfully navigate dyadic conflicts by employing an interpersonally-sensitive strategy of perspective taking that reduced self-report ratings for negative affect. Those who were initially angry were able to adaptively cope across reported conflicts. These results suggest that it is within adolescents' capacity to improve their mood by re-assessing dyadic interactions. Moreover, the results hint that adolescents may feel naturally inclined to make peace with the past.

One hypothesis that was unsupported in my findings was that the dyadic variable of conflict-partner relationship type would impact affect intensity and recovery of negative affect. As it turns out, adolescent conflicts with parents were not more hostile

initially and there was no difference in the amelioration of negative feelings. Contrary to this prediction, the initial intensity and recovery of affect in conflicts with peers and parents were relatively the same across inter- and intra- generational relationships. Perhaps because conflicts were not coded and categorized by duration and/or severity nor by initial relationship quality, results from this study could not detect these differences between groups. Participant conflicts were varied such that participants were reporting on minor annoyances to large transgressions, which were not controlled for in the present study. A non-significant trend was found, however, that relationship type (e.g., whether a participant was reporting on conflict with a parent versus peer) predicted different participant ratings of their conflict partner's anger. In the present study, participants trended to view their parents as more angry than their peers in the heat of the reported conflict. This partially corroborates with results by Laursen (1993b) that parental disputes correlate with higher arousal.

Although the main-effect hypothesis of this study was supported (anger attenuated across time points), trait and demographic variables were less predictive of post-conflict outcomes than hypothesized. Gender and age did not play a determinative role in the effectiveness of the take-perspective intervention. The intensity of negative affect (self-reported peak anger) did not increase with age according to meta-analytic data, which suggests a trend of increased conflict affectivity post-puberty (see Laursen, Coy, & Collins, 1998). A possible explanation for this result is that my sample was essentially homogenous in terms of age. Participant ages in my sample ranged from 15 to 19, and the mean age of our sample was 16.8 (which is well beyond the average onset of puberty).

Unsurprisingly, participants who generally endorsed more negative affect and less emotion regulation and patience reported more anger, sadness, and upset affect at both time points in the current study. Also, those who felt angrier, sadder, and more upset in the heat of their reported conflict reported less satisfaction with life. These findings make sense in light of previous studies that link participant scores of high neuroticism and chronic emotional instability to outcomes of lower well-being and social abilities (Watson & Clark, 1984).

Study Implications

The findings that feelings can be modified by use of a brief, app-based intervention fills gaps in the literature and suggests that technology may be used to promote mental health and wellness. The fact that teens could improve their feelings related to a dispute by following a short, guided exercise on their smartphone is highly encouraging. Through engagement with the *CharacterMe* app, teens who spend time on the web and their smartphones already can significantly increase their positive feelings and decrease negative feelings by pausing to report on a conflict and take someone else's affective perspective. A clinical implication of this study is that patients receiving therapy might similarly be guided through steps of affective perspective-taking in session. Best practice for psychotherapy might include this intervention. Applications abound for family and marital therapy because family and strained romantic relationships are often riddled by the emotional volatility caused by assuming victim-mindedness or a myopic perspective (Greenberg, 2013).

Study Limitations

Due to the fact that data obtained in this study came from the launch of the *CharacterMe* app, which included a host of interventions in addition to the take-perspective challenge, the intervention itself was not fine-tuned after my lab ran the pilot study. Unfortunately, there was a catchall category, "other," and categories for "sibling" and/or "peer" (as opposed to "friend") relationship types were unspecified as "other" in our data. This impeded analyses with larger subsamples in the analyses based on relationship type. Also, because participants only reported one conflict with one relationship type, analyses could not be conducted to determine if relationship-type differences would emerge on a within-person actor level.

Moreover, a technological limitation was encountered via our instrument for obtaining data. After all data was collected, a glitch with the sliding anchors was discovered, such that there was no built-in, forced-response tracker for participants' ratings of affect levels. Untouched sliders (left at the midway point, 50/100) came through as N/A and were recoded as "50" (basically neutral) when participants moved the slider—thus, showing activity—on other items within the *Take Perspective* challenge. Participants whose results included all N/A responses were deemed invalid and were removed from the dataset to maintain integrity for analyses. It is also true that the study may have attracted participants who were tech-savvy and deterred those who were not tech-savvy from participating. Consequently, there may be a limit to the findings' generalizability to less tech-savvy age categories and/or tech-avoidant personalities.

Future Directions

Looking forward, there are many opportunities to advance smartphone application technologies for character strength training and holistic, socioemotional development. The contribution of the present study was unique and relevant because it looked at the influence of actor embeddedness in multiple systems and dyads. Most popular self-help applications available to the public lack an interpersonal component. Psychological researchers, app developers, and design teams can collaborate on new apps to help users grow such capacities as self-control, patience, thrift, empathy, and kindness contextualized in relationships. Furthermore, collaborations between psychological researchers and school systems can be forged to disperse helpful applications to students whose lives involve, on average, seven to eight daily conflicts (Laursen, 1995). High emotional intelligence and a capacity for anger regulation in the presence of conflicts relate to better life outcomes.

The task of developing empirically-supported, strengths-geared, and skill-building tools for adolescents is critical for preventive intervention. Adolescents who can achieve mastery over their emotions at an earlier time point can avoid running into major trouble that results from unbridled reactions to losses, threats, and challenges. Emotional regulation involves self-control, empathy, as well as inter- and intra- personal patience. Findings from this study demonstrate that the disciplined employment of socioemotional skills can generate affective change when persons are motivated to practice cognitive empathy via perspective-taking.

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Table 1

Bivariate Correlations – Participant Traits, Pre- and Post-Intervention Emotion Ratings

	PANAS Neg.	IP Patience	Hardships Patience	Hassles Patience	Sadness Reg.	Sadness Dys.	Anger Reg.	Emo. Stability	Self Control Neg.	SWLS
Pre-Anger	.16**	-.15**		-.18**				-.13**		-.14**
Post-Anger	.12*									
Pre-Sad	.23**		-.15**	-.14**	-.20**	.17**	-.13*			-.14**
Post-Sad	.14*				-.14**					
Pre-Upset	.23**	-.12*		-.15**	-.17**	.11*	-.14*	-.14**	.14*	-.15**
Post-Upset	.13*				-.13**					

Note. $N = 328$. *$p < .05$, ** $p < .01$. IP = Interpersonal; PANAS = Positive and Negative Affect Scale; Reg. = Regulation; Dys. = Dysregulation; SWLS = Satisfaction with Life Scale.