

THESIS

DO MENTOR-MENTEE SELF-REPORTED RELATIONSHIP QUALITY MEASURES
DIFFER OR OVERLAP FROM OBSERVED MEASURES?

Submitted by

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ABSTRACT

DO MENTOR-MENTEE SELF-REPORTED RELATIONSHIP QUALITY MEASURES DIFFER OR OVERLAP FROM OBSERVED MEASURES?

Mentoring programs have been rapidly growing in the United States since the mid-1990s. Studies have revealed significant positive associations between mentoring programs and increases in at-risk youths' socio-emotional, cognitive, and identity development. Specifically, the relationship quality between mentor and mentee has been identified as central to outcomes for youth positive development trajectory. Many studies have examined mentor-mentee relationship quality using self-report measures (Dutton, Deane, & Bullen, 2018; Karcher, Nakkula, & Harris, 2005; Rhodes, Schwartz, Willis, & Wu, 2017). This study utilized both self-report measures and methodological tools to naturalistically collect data to examine mentor-mentee relationship quality. By assessing both the mentor and mentee perception of the relationship quality with self-report and observed measures, researchers will be able to identify differences or overlap between these two measures. We hypothesize both mentor and mentee observed relationship qualities will be related to self-reported mentor-mentee relationship quality in small to moderate amounts. Specifically, we anticipate a positive association between the two.

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INTRODUCTION

The widespread interest in mentoring programs within the United States merits further investigation of the development of high-quality mentor-mentee relationships. Central to mentoring programs is that the mentor will provide ongoing guidance and encouragement which is aimed at developing the character and abilities of the mentee (Rhodes, 2004). Studies have revealed significant positive associations between high-quality mentoring and increases in at-risk youths' socio-emotional (e.g., self-regulation), cognitive (e.g., decision-making), and identity development (e.g., autonomy) (Rhodes, Spencer, Keller, Liang, & Noam, 2006).

Traditionally, relationship quality has been measured through administering self-reported questionnaires to either, or both, mentor and mentee (Dutton et al., 2018; Karcher et al., 2005; Rhodes et al., 2017). Although self-reported measures are valuable for understanding human experience, individuals have limitations on their own introspection, which have raised concerns with relying on self-reports of the mentoring relationship (Bollich et al., 2016; Mehl & Holleran, 2007; Polkinghorne, 2005). To date, little research has relied on observational methods to understand mentoring relationship quality, and very few studies have examined the extent to which naturalistic observations and self-reported measures correlate. The goal of this study is to provide evidence that there are overlap and differences between mentor-mentee self-reported relationship quality and observed measures.

Mentoring Program Benefits

There are many documented benefits of mentoring programs, especially for those youth in high-risk circumstances (DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011). For

instance, there is considerable evidence that mentoring programs help to promote social and emotional well-being, as well as aid to the development of significant emotional bonds (Rhodes et al., 2006). Additional social-emotional development of adolescents is encouraged by mentors modeling effective communication to help youth better understand, express, and regulate their emotions (Rhodes & DuBois, 2008).

Mentoring similarly affects cognitive development processes as mentors can provide a secure base from which youth can make cognitive gains (Rhodes et al., 2006). Through the interactions with mentors, adolescents acquire new thinking skills and become more receptive to adult values, advice and perspectives (Rhodes & DuBois, 2008). There have also been predicted improvements in academic and vocational outcomes due to strong mentor relationships (Rhodes & DuBois, 2008). In addition to cognitive gains, there has been evidence that shows improvements in identity development. It is noted that mentor-mentee relationships facilitate identity development which helps to shift youths' perceptions of their current and future identities (Rhodes & DuBois, 2008). Specifically, the introduction of new activities, resources, and educational opportunities help the youth construct a sense of positive future orientations of their identity (Rhodes & DuBois, 2008).

Through dynamic interactions with other validating adults, such as a mentor, children feel more open to soliciting emotional support to cope with stressful life events (Rhodes et al., 2006). It is also common for youth to enter mentorship programs after experiencing a lack of social acceptance from their peers (DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011). The support of a mentor offers individuals the approval they might seek as well as negating them from engaging in delinquent activities or risky behaviors (DuBois et al., 2011). The capacity and

willingness for youth to form close relationships with non-parent adults suggest the likelihood for a range of positive youth outcomes to come forth (Sterrett, Jones, McKee, & Kincaid, 2011).

Relationship Quality as a Mechanism

Theoretically, the positive outcomes associated with mentoring are driven by the quality of the mentor-mentee relationship (Rhodes et al., 2006). Rhodes' model of youth mentoring (2005) theorizes positive outcomes of mentoring is based on the quality of mentoring relationships. Relationship quality, formed on the basis of mutuality, trust and empathy, is considered to be a critical part of the mentoring process, and simply being in a mentoring relationship is not enough to bring positive changes to the mentee (Dutton et al., 2018; Rhodes & DuBois 2008). If a bond between mentor and mentee does not form, disengagement before the mentorship lasts long enough to see positive impacts may occur (Rhodes et al., 2006). Rhodes (2005) also asserts that without a meaningful bond between the mentor and mentee, the mentee will gain little benefits from the mentorship. Through the enhancement of social, cognitive, and emotional functioning in combination with an emotionally close relationship, their interpersonal relationships are modified which serve as a mechanism for change (Weiler, Zimmerman, Haddock, & Krafchick, 2014).

The literature also shows that mentee reports of the quality within their mentoring relationships showed larger effects on their various youth outcomes (Raposa et al., 2019). This means that when mentees reported higher quality relationships, improvements in developmentally relevant outcomes such as academic engagement and self-esteem may emerge (Raposa et al., 2019). A meta-analysis also highlighted similar findings. Youth who do report having strong relationships with their mentors tend to show more favorable outcomes in their development (DuBois et al., 2002).

There have also been empirical links within the mentoring literature between measures of mentoring relationship quality and positive youth outcomes. A comprehensive meta-analysis was conducted of all mentoring outcome studies to-date (Raposa et al., 2019). Through these analyses, it was found that the mean effect of mentoring on youth outcomes was .21 (Raposa et al., 2019). According to Cohen's (1988) guidelines, this effect is considered to be small and similar to what past meta-analyses of youth mentoring found (Dubois, Holloway, Valentine, & Cooper, 2002). This consistency is notable due to the increase in mentoring programs in the past decade which has also emphasized evidence-based programs, rather than practice wisdom (Raposa et al., 2019).

Quality of Mentoring Relationships

High-quality relationships can be developed and deepened through joint commitment and emotional involvement of both the mentor and mentee (Spencer, 2006). Meaningful connections such as common experiences, help to forge a commonality between both the mentor and mentee where specific and personal qualities are important. In general, research is in the early stages of pointing to specific dimensions that differentiate more effective mentoring programs from those that only narrowly improve mentoring relationships (Spencer, 2006).

For example, authentic mentor-mentee relationships are those to which interactions are marked by responsiveness and open sharing (Spencer, 2006). More specifically, interactions between dyads where they share thoughts and feelings with one another and with this, respond authentically to disclosure. Accepting relationships are those in which interactions are characterized by a response and unconditional positive regard as opposed to judgment or disapproval (Pryce & Keller, 2013). Additionally, the presence of empathy, mutuality/collaboration, and companionship were particular dimensions that predicted

emotionally close mentoring relationships (Spencer, 2006). Empathetic mentor-mentee relationships are those to which interactions are marked by understanding the other's perspective and experience, especially when negative emotions are expressed (Spencer, 2006). Mutuality and collaboration is the extent to which both members contribute to the developmental course of the relationship, in addition to showing respect and enthusiasm toward the relationship (Spencer, 2006). Companionship and closeness is the extent to which the dyad shares pleasurable experiences with each other, while also displaying enjoyment in each other's company (Spencer, 2006). Finally, sage mentoring is the extent to which mentors take on a leadership role by providing guidance to their mentees (Keller & Pryce, 2012).

Mentors also serve as a concrete model by demonstrating qualities that their mentee may want to follow (Raposa et al., 2019). These positive influences can additionally impact the youth by serving as protective factors, ways in which one can deal with stressful events more effectively. For these protective factors to be positively influential on youth, the modeling of appropriate behaviors and values are necessary. Youth are more likely to engage in problematic behavior when they perceive mentors to be engaged in the same types of behaviors themselves (Rhodes & DuBois, 2008).

How Relationship Quality has been Measured

Consistent among meta-analyses across fields, assessment approaches can significantly influence the evaluation of the program's effectiveness (Raposa et al., 2019). Many mentoring programs approach measuring relationship quality solely through mentor reported measures (Karcher et al., 2005; Rhodes et al., 2017). This was considered a limitation because of the lack of perspective from both members of the dyad (Karcher et al., Rhodes et al., 2017). Variables measured through these studies focused on assessing specific factors that contributed to

satisfaction and frustration in the relationship, which lacked face validity in the context of measuring relationship quality (Rhodes et al., 2017). The questions that were asked and measured in these studies typically asked about broad behaviors and interactions. This was considered to be a limitation because greater specificity would have provided more precise feedback and result in greater variances in responses (Rhodes et al., 2017). Additionally, these measures are quite subjective in that they reveal the mentor's experience more than objective mentee outcomes (Karcher et al., 2005). However, additional studies have been conducted which involve researchers interviewing mentors and mentees which included their feelings toward the types of support given and expectations from the mentor (Pryce & Keller, 2013). Although beneficial to conduct open-ended interviews, the dyads met in a group setting which can influence their responses as well as the nature of younger children and their inability to articulate all of their experiences (Pryce & Keller, 2013).

Observational assessments have also been gathered by family members, teachers, caseworkers, or program staff because of their direct contact or observation of the mentoring dyads (Duetsch & Spencer, 2009; Dutton et al., 2018). Valuable information was gathered, especially from the program staff, as they have experience in monitoring the dyadic relationship overtime (Dutton et al., 2018). However, their perception of relationship quality may not align with how the mentor and mentee report the mentorship to be.

Observational Data Collection

Polkinghorne's (2005) review on the limitations of self-reports provides additional insight into how humans don't have the complete capacity to recollect one's experiences accurately. Although self-report is useful in the context that not all experience is directly observable, participants' ability to reflect on their own experience and effectively communicate

their insight yields both beneficial and limiting. Data gathering either in the form of short answer responses or Likert scale questionnaires may be inadequate to capture the full experience of the participants (Polkinghorne, 2005).

Although underutilized, naturalistic observations can be used to provide a more in-depth understanding of the processes that are associated with quality mentoring relationships (Deutsch & Spencer, 2009). In addition, information obtained by outside observers can yield a greater objective perception of the relationship (Allen & Eby, 2010). By assessing the quality of these dyadic relationships through external assessments, a more accurate way of measuring relationship quality may be understood (Deutsch & Spencer, 2009). Taking into account the social interaction between the mentor and mentee, observational data collection can also provide external assessments of the quality of dyads (Deutsch & Spencer, 2009).

Although observational data has been used when learning about relationship quality in families and parent-child relationships (Imami et al., 2014; Slatcher & Robles, 2012; Slatcher & Trentacosta, 2011), it has not previously been used to assess mentoring relationship quality. The observational tool, the Electronically Activated Recorder (EAR), fills a methodological gap in existing psychological research by allowing insider perspective through an unobtrusive channel of collecting data (Mehl & Holleran, 2007). The tool samples only a fraction of the time, which protects participants' privacy and is one of the few ways to collect person-centered behavioral observational data in a natural environment (Campos, Graesch, Repetti, Bradbury & Oschs, 2009).

Therefore, the addition of using a naturalistic assessment tool allows the mentor and mentee dyad to have conversations which will accurately capture natural social and psychological interactions. Through both self-reported measures and naturalistic data collection,

similar findings regarding mentor-mentee relationship quality should become apparent as there is a commonality in what is being measured and a comprehensive understanding of individuals' lives can emerge.

THE CURRENT STUDY

Based on this review, there is a gap in the existing literature using observational data, specifically the observational tool, the Electronically Activated Recorder (EAR). This tool has been used to observe various relationships, but never mentor-mentee relationship quality (Imami et al., 2015; Slatcher & Robles, 2012; Slatcher & Trentacosta, 2011). The purpose of the current study is to quantitatively evaluate the differences and overlap between observed and self-reported relationship quality between mentors and mentees. Further, the current study aims to assess how these popular forms of collecting data are able to produce similar findings when evaluating a common variable, relationship quality between mentoring dyads. In order to unobtrusively capture natural social and psychological interactions, observations can also be utilized to measure relationship quality. Given these popular forms of collecting similar data, self-report and observed measures should have some commonalities in their findings.

METHOD

Campus Connections

The Campus Connections (CC; formerly known as Campus Corps) Mentoring Program at Colorado State University enrolls at-risk youth ages 10-18 as mentees. The CC program is a 3-credit service-learning course for undergraduates who serve as mentors. Graduate students from the Family Therapy program provide opportunities for mentees to check in with a therapist throughout the CC program. In this program, youth are paired in one-on-one mentoring dyads within a community of about 25 pairs. The college students receive extensive training to learn the best practices of mentoring; specifically, the CC program is informed by Rhodes' model of youth mentoring (Rhodes, 2005). Youth are typically referred to CC from either the juvenile justice system, schools, social service agencies, and directly from families. These youth are considered at risk for offending or re-offending acts of delinquency and often, CC is part of the youth's diversion or probationary conditions, if applicable.

The CC program takes place on a university campus, which allows adolescents to gain firsthand experience and insight into higher education. The CC program provides mentoring, mental health therapy services, support for youth families, opportunities to explore campus, tutoring, and prosocial activities. CC promotes family engagement beginning with an intake process where goals and needs are assessed. Through a research-based procedure, youth are given the opportunity to pick their own mentors from a selection of profiles and meet with their mentor one day a week (randomly assigned), for 4 hours, for 12 weeks.

Each night of the 12-week program, mentor-mentee pairs participate in walks around campus, called Walk and Talk, Supporting School Success (SSS) which involves homework

help, eating dinner together, and participating in 2 hours of prosocial activities (e.g., sports, artistic activities, social justice programming). In order to provide additional support, mentor-mentee pairs are organized into Mentor Families, which are made of four mentor-mentee pairs within similar youth age ranges. For the purposes of the current study, nights were randomly assigned to receive CC with Mentor Families, or CC without Mentor Families (i.e., dyadic mentoring).

Participants

Mentees

The mentee sample included 608 individuals who ranged in age from 10 to 18 years ($M=15$). The sample was mostly male (62.05%), followed by female (36.41%), and transgender (1.54%). The majority of participants were Caucasian (62.05%), followed by Hispanic/Latino (18.97%), mixed ethnicity (11.28%), African American (3.08%), American Indian (2.05%) and Asian (1.03%) which is reflective of northern Colorado's demographic. To be eligible to join CC, the mentee must be within the 10-18-year-old age range.

Mentors

To be selected as a mentor in CC, undergraduate students apply through a competitive application process which is used to identify characteristics suitable for a high-quality mentor relationship. These characteristics consisted of having experience in a helping role and an understanding of cultural and socioeconomic differences. Students receive a multidisciplinary service-learning course credit for participating as a mentor and may be enrolled in any major on campus. If accepted, students must also complete and pass a criminal background check. The mentor sample ($N=608$) ranged in age from 17 to 50 ($M=21$), were mostly female (86.2%), and Caucasian (82.5%), followed by Hispanic/Latino (10.8%), which is reflective of the university's

undergraduate demographic. To be eligible to become a mentor in CC, all interested students must attend a mandatory informational meeting, submit the application, and pass a criminal background check.

Procedure

Participants were assured that their decision to participate in research would not impact their academic standing in the course or ability to participate in Campus Connections. All participants provided consent prior to participation in the study and data collection.

Mentor and mentee ratings of alliance were collected at weeks 3, 6, 9, and 12 by asking each to assess their relationships with their mentor or mentee. For the purposes of this study, weeks 6 and 12 examined. Mentor ratings of both positive and negative qualities in their relationships with their mentees were also collected at weeks 3, 6, 9, and 12 with weeks 6 and 12 being examined in this study. Lastly, observational data was collected at weeks 3, 6, 9, and 12 using the EAR software installed on an iPod. For the purposes of this study, weeks 6 and 12 were examined.

Measures

Self-Report Measures.

Mentor/Mentee Alliance.

This scale is an adapted version of the Mentor Alliance Scale (MAS) (Cavell, Elledge, Malcolm, Faith, & Hughes, 2009). This 14 to 16-item scale is used to assess the strength of the mentoring alliance between mentors and mentees. Sample items include “My mentee looks forward to our visits” and, “I tell my mentor about things that upset me”. Both mentors and

mentees rated each item using a 5-point Likert scale from 1 (*Never*) to 5 (*Always*). Alpha coefficients ranged from .87 and .88 to .85 and .88, at weeks 6 and 11, respectively.

Positive/Negative Relationship Quality

This scale is an adapted version of the 8-item Positive Marital Quality (PMQ) and 8 item-Negative Marital Quality (NMQ) scales (Fincham & Rogge, 2010). Assessment of the two dimensions was used by distinguishing them during evaluation (e.g., “Considering only the positive qualities of your relationship with your mentee and IGNORING the negative ones, please evaluate your relationship with your mentee on the following qualities”). Sample positive qualities include “enjoyable, pleasant, strong”, and negative qualities “unpleasant, bad, dull”. Mentors rated each item using an 11-point Likert scale from 0 (*not at all*) to 10 (*extremely*). Alpha coefficients found were .93 and .95 at weeks 6 and 11, respectively.

Observed Measures.

Qualities of the Mentor-Mentee Relationship

Mentor and mentee observed relationship qualities are defined by those characterized who exhibit authenticity, acceptance, empathy, mutuality/collaboration, closeness/companionship, and sage mentoring. *Authentic* mentoring dyads are those marked with responsiveness, disclosure, and responding authentically to that sharing. *Acceptance* is the extent to which respect and positive regard are shown versus judgment and disapproval. *Empathetic* relationships are characterized by an understanding of the other’s perspective and experience along with displaying warmth and compassion. *Mutuality/collaboration* is the extent to which both members contribute to the development of the relationship along with displaying respect and enthusiasm. *Closeness/companionship* is marked through relationships sharing pleasurable experiences with one another and displaying enjoyment because of each other’s

company. And *sage mentoring* is the extent to which mentors exhibit a leadership role by providing guidance to their mentee. A team of graduate student raters were trained to use the coding scheme from 1 (*Low*) to 5 (*High*). Twenty percent of the recordings were coded by a reliability coder to confirm that inter-rater reliability remained high.

Data Analytic Plan

First, preliminary analyses, specifically, paired samples t-tests for each sector of recordings (e.g., walk and talk, SSS, dinner) were conducted to determine if there were significant differences between the sector of recording and amount of the dimension being displayed. Overall R^2 of each model was also examined. Second, preliminary analyses were conducted, namely, simple correlations were used to explore if there were relationships between the dimensions. Third, a series of linear regression models were used to predict self-reported measures (separate regressions for weeks 6 and 12) based on each of the separate observed dimensions. Indicators of multicollinearity were examined, which were not problematic.

RESULTS

Bivariate Associations between Week 6 Observations and between Week 12 Observations

Concurrent Associations between Week 6 Observations

As seen in Table 1, authenticity was significantly, positively, and largely correlated with all of the other week 6 observed variables, with the exception of guidance, for which there was a small but significant correlation and collaboration for which there was no significant correlation. Next, acceptance was significantly and largely correlated with empathy and closeness; in contrast, it was significantly and moderately correlated with collaboration and not significantly correlated with guidance. Empathy was significantly and largely correlated with closeness, has a small correlation with collaboration, and no significant correlation with guidance. Collaboration has a small correlation with closeness and a negative not significant correlation with guidance. Lastly, closeness was not significantly correlated with guidance.

Concurrent Associations between Week 12 Observations

The patterns of concurrent week 12 correlations was the same when compared to the concurrent week 6 correlations, with few exceptions. Acceptance was significantly, largely, and positively correlated with empathy and closeness. There was also a small, significant correlation with collaboration. Next, empathy has a small yet significant correlation with guidance. Lastly, collaboration has a small, significant, correlation with closeness.

Longitudinal Associations from Week 6 Observations to Week 12 Observations

In contrast to the multiple correlations among concurrent observed variables, there was no significant longitudinal correlations between authenticity, closeness, and guidance at week 6

and any of the observed variables at week 12. However, there was a significant, positive, and large correlation between acceptance at week 6 and empathy at week 12, as well as a significant, positive, and small correlation between acceptance at week 6 and closeness at week 12.

Furthermore, there was significant and small correlations of empathy at week 6 with week 12 acceptance, empathy and closeness. In addition, collaboration at week 6 was significantly and positively correlated with week 12 empathy and guidance . Finally, there was a significant and small negative correlation between week 6 guidance and week 12 collaboration.

Bivariate Associations between Week 6 Observations and Week 6 Self-Report

As seen in Table 2, mentor reported alliance was significantly, positively, and strongly correlated with positive mentor relationship quality while having a significant and strong negative correlation with negative mentor relationship quality. There was also a small, positive correlation with mentee reported alliance. At week 6, positive mentor relationship quality was significantly and strongly negatively correlated with negative mentor reported alliance and has a small yet significant correlation to mentee reported alliance.

At week 6, mentor alliance has a small, positive correlation with authenticity.

Table 1. Bivariate associations between Week 6 Observations and between Week 12 Observations

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1. Authenticity w6	—											
2. Acceptance w6	0.52 ***	—										
3. Empathy w6	0.54 ***	0.65 ***	—									
4. Collaboration w6	0.06	0.34 ***	0.14 *	—								
5. Closeness w6	0.60 ***	0.65 ***	0.58 ***	0.20 **	—							
6. Guidance w6	0.16 ***	0.07	0.07	-0.02	0.03	—						
7. Authenticity w12	0.04	0.11 *	0.07	0.09	0.04	0.04	—					
8. Acceptance w12	0.04	0.14 **	0.12 *	0.08	0.07	0.02	0.65 ***	—				
9. Empathy w12	-0.00	0.17 ***	0.11 *	0.14 *	0.05	-0.02	0.70 ***	0.74 ***	—			
10. Collaboration w12	-0.05	0.03	0.07	-0.01	0.00	-0.14 *	0.03	0.24 ***	0.17 *	—		
11. Closeness w12	0.10 *	0.15 **	0.14 **	0.07	0.11 *	0.01	0.63 ***	0.76 ***	0.67 ***	0.23 ***	—	
12. Guidance w12	0.01	0.05	0.01	0.22 **	0.00	0.05	0.17 ***	0.10 *	0.16 ***	-0.00	0.09	—

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 2. Bivariate associations between Week 6 Observations and Week 6 Self-Report

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. Authenticity w6	—									
2. Acceptance w6	0.52 ***	—								
3. Empathy w6	0.54 ***	0.65 ***	—							
4. Collaboration w6	0.06	0.34 ***	0.14 *	—						
5. Closeness w6	0.60 ***	0.65 ***	0.58 ***	0.20 **	—					
6. Guidance w6	0.16 ***	0.07	0.07	-0.02	0.03	—				
7. Mentor alliance w6	0.10 *	-0.04	-0.05	0.07	0.02	-0.00	—			
8. Positive mentor RQ w6	0.05	0.01	0.01	0.12	0.06	-0.00	0.59 ***	—		
9. Negative mentor RQ w6	-0.02	0.01	0.02	0.00	-0.01	0.08	-0.53 ***	-0.58 ***	—	
10. Mentee alliance w6	0.08	0.01	0.04	-0.03	0.06	-0.05	0.08	0.11 **	-0.06	—

* $p < .05$, ** $p < .01$, *** $p < .001$

Bivariate Associations between Week 12 Observations and Week 12 Self-Report

As seen in Table 3, authenticity has a small but significant and positive correlation with mentor reported alliance. At week 12, acceptance has a small correlation with all of the variables except for positive mentor relationship quality in which there was a small, negative correlation. At week 12, empathy and closeness have small correlations with mentor reported alliance and positive mentor relationship quality and have small, negative correlations with negative mentor relationship quality and mentee reported alliance. At week 12, collaboration has a small correlation with mentor reported alliance and negative mentor relationship quality and a small, negative correlation with positive mentor relationship quality and mentee reported alliance. At week 12, guidance has a small correlation with mentor and mentee reported alliance and has a small, negative correlation with positive and negative mentor relationship quality.

Longitudinal Associations from Week 6 Observations to Week 12 Self-Report

Similar to the concurrent associations at week 12 between observations and self-reports of mentoring quality, there was no significant longitudinal correlations from week 6 observations to week 12 self-reports seen in Table 4.

Table 3. Bivariate associations between Week 12 Observations and Week 12 Self-Report

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. Authenticity w12	—									
2. Acceptance w12	0.65 ***	—								
3. Empathy w12	0.70 ***	0.74 ***	—							
4. Collaboration w12	0.03	0.24 ***	0.17 *	—						
5. Closeness w12	0.63 ***	0.76 ***	0.67 ***	0.23 ***	—					
6. Guidance w12	0.17 ***	0.10 *	0.16 ***	-0.00	0.09	—				
7. Mentor alliance w12	0.13 **	0.06	0.03	0.03	0.11 *	0.06	—			
8. Positive mentor RQ w12	0.06	-0.02	0.03	-0.06	0.07	-0.01	0.46 ***	—		
9. Negative mentor RQ w12	-0.05	0.01	-0.06	0.03	-0.05	-0.04	-0.40 ***	-0.58 ***	—	
10. Mentee alliance w12	-0.04	0.02	-0.03	-0.02	-0.05	0.08	0.02	0.05	0.01	—

* p < .05, ** p < .01, *** p < .001

Table 4. Longitudinal Associations from Week 6 Observations to Week 12 Self-Report

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. Authenticity w6	—									
2. Acceptance w6	0.52 ***	—								
3. Empathy w6	0.54 ***	0.65 ***	—							
4. Collaboration w6	0.06	0.34 ***	0.14 *	—						
5. Closeness w6	0.60 ***	0.65 ***	0.58 ***	0.20 **	—					
6. Guidance w6	0.16 ***	0.07	0.07	-0.02	0.03	—				
7. Mentor alliance w12	0.10 *	-0.04	-0.05	0.07	0.02	-0.00	—			
8. Positive mentor RQ w12	0.08	0.01	0.06	0.15 *	0.09 *	0.00	0.46 ***	—		
9. Negative mentor RQ w12	-0.01	-0.02	-0.00	-0.10	-0.03	0.02	-0.40 ***	-0.58 ***	—	
10. Mentee alliance w12	0.01	0.05	0.03	-0.04	0.03	0.04	0.02	0.05	0.01	—

* p < .05, ** p < .01, *** p < .001

Concurrent Associations between Week 6 Observations to Week 6 Self-Report

Turning now to multivariate regressions, as seen in Table 5, there was significant associations of week 6 authenticity, empathy and closeness with week 6 mentor-reported alliance. Authenticity was significantly and positively associated with mentor-reported alliance; this association was relatively small. Similarly, there was a significant, positive, and relatively small association between closeness and mentor-reported alliance. In contrast, there was a significant, negative association between empathy and mentor-reported alliance which was relatively moderate in size. There was no other significant associations between week 6 observed variables and week 6 mentor-reported alliance.

Although mentor-reported alliance was significantly predicted by several observed mentoring indicators, there was no significant associations between week 6 observed variables and week 6 mentee-reported alliance.

However, there was multiple significant associations between observed variables and mentor-reported positive relationship quality, as well as negative relationship quality. In terms of positive relationship quality, there was significant, positive and small-moderate associations with closeness and a small-moderate, negative association with empathy. The results was very similar in relation to negative relationship quality. More specifically, empathy was significantly and positively associated with negative RQ, which was small-moderate in size. In contrast, there was a significant, negative association between closeness and negative RQ which was relatively small to moderate in size. There was no other significant associations of week 6 observed variables with positive or negative relationship quality.

Table 5: Concurrent Associations between Week 6 Observations to Week 6 Self-Report

	Mentor Alliance		Mentee Alliance		Positive Mentor RQ		Negative Mentor RQ	
	<i>b(SE)***</i>	<i>r²_{sp}</i>	<i>b(SE)***</i>	<i>r²_{sp}</i>	<i>b(SE)***</i>	<i>r²_{sp}</i>	<i>b(SE)***</i>	<i>r²_{sp}</i>
Authenticity	0.142(0.071)***	.028	0.105(0.059)	.025	0.199(0.245)	.004	-0.273(0.154)	.020
Acceptance	-0.075(0.091)	.005	-0.032(0.076)	.001	-0.336(0.317)	.008	0.091(0.199)	.001
Empathy	-0.220(0.084)***	.048	-0.071(0.070)	.008	-		0.579 (0.183)***	.066
Collaboration	0.017(0.042)	.001	0.007(0.035)	.001	0.248(0.147)	.020	-0.178(0.092)	.025
Closeness	0.177(0.079)***	.036	0.042(0.066)	.003	0.822(0.273)***	.063	-0.569(0.171)***	.072
Guidance	-0.037(0.086)	.001	-0.106(0.071)	.017	0.196(0.299)	.003	-0.019(0.188)	.001
<i>R²</i>	<i>.11</i>		<i>.05</i>		<i>.11</i>		<i>.17</i>	

Longitudinal Observations between Week 6 Observations to Week 12 Self-Report

There was significant associations between week 6 authenticity, empathy, and closeness with week 12 mentor-reported alliance (see Table 6). More specifically, there was a significant, positive association between authenticity and mentor-reported alliance which was relatively small in size. Similarly, there was a significant positive and relatively small association between closeness and mentor-reported alliance. In contrast, there was a significant, negative association between empathy and mentor-reported alliance which was relatively moderate in size. There was no other significant associations between week 6 observed variables and week 12 self-reported variables.

Acceptance was significantly and positively associated with week 12 mentee-reported alliance which was relatively small in size. However, there was no other significant associations between week 6 observed variables and week 12 mentee-reported alliance.

There was significant associations between week 6 collaboration and closeness with week 12 positive mentor RQ. Specifically, both collaboration and closeness was significantly and positively associated with positive mentor RQ which was small to moderate in size. There was no other significant associations between week 6 observed variables and week 12 positive mentor RQ.

There was significant associations between week 6 empathy, collaboration and closeness with week 12 negative RQ. More specifically, empathy was significantly and positively associated, which was small to moderate in size. In contrast, collaboration and closeness was both significantly, negatively associated. Collaboration had a small to moderate association while closeness was small.

Concurrent Associations between Week 12 Observations to Week 12 Self-Report

As seen in Table 7, there was no significant associations between week 12 observed variables and week 12 self-reported variables.

Table 6. Longitudinal Observations between Week 6 Observations to Week 12 Self-Report

	Mentor Alliance		Mentee Alliance		Positive Mentor RQ		Negative Mentor RQ	
	<i>b(SE)</i> ***	<i>r</i> ² _{sp}	<i>b(SE)</i> ***	<i>r</i> ² _{sp}	<i>b(SE)</i> ***	<i>r</i> ² _{sp}	<i>b(SE)</i> ***	<i>r</i> ² _{sp}
Authenticity	0.157(0.077)***	.028	-0.068(0.082)	.005	0.302(0.273)	.008	-0.351(0.214)	.182
Acceptance	-0.070(0.099)	.003	0.210(0.104)***	.030	-0.524(0.351)	.015	-0.033(0.276)	.001
Empathy	-0.299(0.091)***	.073	0.048(0.097)	.002	-0.460(0.328)	.014	0.756(0.258)***	.059
Collaboration	0.050(0.046)	.008	-0.095(0.049)	.029	0.442(0.164)***	.050	-0.376(0.129)***	.058
Closeness	0.233(0.085)***	.050	0.021(0.090)	.001	0.959(0.304)***	.069	-0.491(0.240)***	.029
Guidance	0.030(0.094)	.001	-0.033(0.098)	.001	0.342(0.330)	.007	-0.026(0.260)	.001
<i>R</i> ²	.14		.076		.14		.15	

Table 7. Concurrent Associations between Week 12 Observations to Week 12 Self-Report

	Mentor Alliance		Mentee Alliance		Positive Mentor RQ		Negative Mentor RQ	
	<i>b(SE)</i> ***	<i>r</i> ² _{sp}	<i>b(SE)</i> ***	<i>r</i> ² _{sp}	<i>b(SE)</i> ***	<i>r</i> ² _{sp}	<i>b(SE)</i> ***	<i>r</i> ² _{sp}
Authenticity	0.120(0.088)	.015	-0.094(0.079)	.011	0.214(0.301)	.004	-0.280(0.212)	.014
Acceptance	-0.049(0.119)	.001	0.202(0.107)	.029	-0.640(0.411)	.019	0.032(0.289)	.011
Empathy	0.067(0.096)	.004	-0.057(0.088)	.003	0.397(0.338)	.011	-0.175(0.237)	.004
Collaboration	-0.018(0.047)	.001	-0.059(0.043)	.015	-0.292(0.165)	.025	0.044(0.116)	.001
Closeness	0.130(0.100)	.013	0.086(0.092)	.007	0.614(0.345)	.025	0.212(0.242)	.006
Guidance	0.119(0.131)	.007	0.036(0.118)	.001	0.281(0.450)	.003	-0.105(0.316)	.001
<i>R</i> ²	.05		.076		.09		.05	

DISCUSSION

According to the most widely used model of youth mentoring (Rhodes, 2002, 2005), the key mechanism of change in promoting positive youth outcomes is a high-quality mentoring relationship. Despite the critical importance of this key construct, most mentoring researchers have relied solely on self-report of the mentor and/or mentee to assess mentoring relationship quality. Although self-report is valuable, strong theoretical and empirical evidence exists for the importance of a multi-method approach to studying interpersonal relationships (e.g., Lucas-Thompson, Graham, Ullrich, & MacPhee, 2017). Incorporating naturalistic observations can provide more nuanced and detailed information about these important relationships, and a better understanding of the relational processes that contribute to high-quality mentoring relationships (Deutsch & Spencer, 2009). Among one of the first in the mentoring literature to use a multi-method approach to measure mentor relationship quality, this study uses the Electronically Activated Recorder (EAR) methodology to allow an unobtrusive means of observing mentor-mentee interactions not previously been used in the study of mentoring dyads (Mehl & Holleran, 2007).

The purpose of the study was to evaluate the degree of similarities and differences between observer ratings of various dimensions of mentoring relationships and self-reported ratings of this relationship quality from both mentors and mentees. Within a 12-week, site-based mentoring program, self-reports on the perceived quality of the mentoring relationship were collected at weeks 6 and 12 from both mentors and mentees. Additionally, at these two time points, mentors and mentees were asked to rate positive and negative qualities in their mentoring

relationships. Simultaneously, iEAR methodologies were used to measure natural social interactions between mentor and mentee. We hypothesized that observer ratings of six dimensions of mentoring relationships (e.g., authenticity, empathy, closeness, guidance, collaboration and acceptance) would be related to self-reports of relationship quality by both mentors and mentees. This hypothesis was only partially supported.

Generally speaking, there were more significant and positive associations between observer ratings of relationship dimensions and mentor self-reports than mentee reports. More specifically, of the six dimensions of mentoring relationships rated by observers, none were significantly associated with mentee reports at week 6, and only one dimension (i.e., acceptance) was positively associated with mentee reports at week 12. In terms of mentor reports, of the six dimensions of mentoring relationship rated by observers, only two (e.g., authenticity and closeness) were significantly and positively associated with mentor reports of alliance at weeks 6 and 12. Unexpectedly, observer ratings of empathy were *negatively* associated with mentor reported alliance at weeks 6 and 12.

Several possibilities exist for why some of the observed dimensions of mentoring relationships quality (i.e., authenticity, empathy and closeness), were significantly associated with mentor reports, but not mentee reports, of relationship quality. This difference may be a result of the ongoing training and supervision mentors receive within Campus Connections (see Weiler, et al., 2014). This training focuses on the development of key interpersonal skills that are believed to underscore a high-quality mentoring relationship. The training is designed to help mentors understand the dimensions that characterize an effective mentoring relationship so they can seek to develop this kind of relationship with their mentee (Weiler, et al., 2014). It may be

that when mentors are successful in cultivating these dimensions in their relationship, they are more likely to report the relationship quality as high (Karcher et al., 2005).

Another possible reason that in comparison to mentee reports, mentor reports were associated with more observer ratings could be that college-level mentors may, developmentally, be relatively better reporters. This is consistent with the research of DuBois and Karcher (2013), who found that, compared to more mature reporters, youth are more likely to give socially desirable answers and may be more prone to give reports that are tainted by their feelings toward their mentor. These researchers found that the younger the child is, the less reliable the self-report, and youth in this sample ranged from age 10 to 18, with a mean age of 15.

Another possible explanation for the limited associations between observer ratings and mentee self-reports may result from a mismatch between the theorized dimensions that characterize mentoring relationship quality and those dimensions that mentees value or appreciate in a mentoring relationship. For instance, mentees may place a higher value on having fun, sharing common interests, or their mentor's personality than on the theorized dimensions, such as empathy and authenticity. This supposition is supported by the research of De Anda (2001), who found that mentees described their "perfect mentor" as one that shared their specific interests and needs.

Yet another explanation for this finding could be related to the specific structure of the program in which the subjects in this study were participants. In this program, youth are paired with a one-on-one mentor with whom they engage in various activities, such as homework help and prosocial activities. In addition, youth also meet regularly with family therapists who provide support for issues that are beyond the scope of the mentor. In fact, mentors are advised to refer their mentee to the therapist when further clinical assessment, or deeper issues arise (e.g.,

suicide assessment, drug and alcohol assessment). Given this structure, it could be that mentees associate their mentor more with having fun and sharing experiences, whereas they associate the therapist more with transparent and intimate conversations characterized by empathy, authenticity, and closeness. Dittman and Jensen (2014) found that some youth feel they cannot share their experiences with their parents or friends and deem a therapist's confidentiality, empathy and knowledge helpful for them.

Results of this study indicate that three observed dimensions of relationship quality-- acceptance, collaboration and guidance--were not significantly associated with either mentor-or mentee-reported relationship quality. For mentors, the lack of significance with these specific dimensions may be due to lower levels of self-confidence or ability in being a mentor. These findings may indicate that a mentor's self-efficacy (i.e., their belief they will be successful with their mentees) may influence their perceptions of their mentoring relationship quality (Karcher et al., 2005). According to Karcher et al. (2005) when a mentor's initial feelings of self-efficacy were higher, they were more confident in their ability to help their mentees feel supported and important. This indicates the importance of assessing, monitoring and promoting the mentor's self-efficacy to create a stronger mentoring relationship.

According to Spencer (2006), one aspect of collaboration can be the mentor assisting the mentee with, "managing and containing intense feelings". When intense feelings are not appropriately managed, mentees may act impulsively leading to a self-compromising position such as, negative or self-destructive behaviors (Spencer, 2006). Previous studies about the Campus Connections program have indicated that mentors may be more cautious in addressing more intense mentee feelings given that a therapist is available at all times to provide this type of counsel (Weiler et al., 2014). Further, the presence of a therapist may explain mentors having

lower levels of engagement in decision making with their mentees as mentors reported in a previous study feeling relieved that additional support was available for this type of guidance (Weiler et al., 2014). In this current study with the Campus Connections program, similar findings could explain the lack of association between the observed variable of collaboration and the self-reported findings.

Limitations and Future Directions

Limitations of the present study should be noted. First, the sample represents mostly at-risk adolescents in a community setting. Thus, further multi-method approaches to studying mentoring relationship quality with more representative samples is needed. Relatedly, participants were predominantly White (82.5% of mentors and 62.05% of mentees) and Hispanic (10.8% of mentors and 18.97% of mentees), which could limit the generalizability of the findings. Additional research to replicate and extend our findings with more diverse sample is needed. Second, our findings were based on correlational data analyses, which prevents cause and effect conclusions being made. Next, this study occurred in a naturalistic environment as opposed to within a lab where the environment is more controlled. Although a naturalistic environment allows for studying how a program operates naturally, it does not allow for the type of control to study specific variables (e.g., mentors do not adhere to a mentoring protocol or a program procedure) that might occur in a lab. Lastly, this study utilized audio recordings which could lead to misinterpretations of the dimensions due to lack of behavioral cues included in videos. Similarly, the audio recordings could be interpreted differently from various coders who may rate the level of the dimension being displayed, in a different way.

Implications for Mentoring Programs

Many mentoring programs collect data in order to provide feedback to funders and to assess the quality of their programs in an effort for ongoing improvement. Some mentoring programs have measured relationship quality solely through mentor-reported measures (Karcher et al., 2005 Rhodes et al., 2017). This means that mentoring programs may adapt and make changes solely based on the mentor's point of view.

This study demonstrates the importance of collecting data from both mentor and mentee self-report as well as observational data in order to provide a more complete assessment. Given that this study found differences between self-report among mentors and mentees and among observations, we believe that evaluations can be more informative when they include multiple perspectives. As mentoring programs conduct ongoing evaluations, they may find differences in the various data they collect that could inform changes to training and program components.

The mentoring literature has found that 6 variables (acceptance, authenticity, closeness collaboration, empathy, and guidance) should be present for the highest quality mentoring relationship. This study found that self-reported mentoring relationship quality were different between mentors and mentees at weeks 6 and 12. While significant associations were found in mentor reported authenticity and closeness at weeks 6 and 12 of their mentoring relationships, significant associations were found in mentee reported acceptance only at week 12. These incongruencies can inform training and supervision intentionally focusing on specific variables. Mentoring programs may benefit from providing mentors with additional guidance and support, especially early on in the program, to promote self-efficacy which can lead to stronger mentoring relationships.

CONCLUSION

This study provides further evidence of the value of high-quality mentoring relationships and reinforces the value of utilizing both self-report measures and naturalistically collecting data. In particular, this study demonstrates the importance of capturing both mentor and mentee perceptions of relationship quality in addition to observational assessments. Although in this study, observations were not consistently positively associated with self-reported relationship quality, further investigation of utilizing a multi-method approach is warranted. This line of inquiry offers the prospect to further our understanding of how to promote high quality mentoring relationships to promote positive youth outcomes.

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