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# Development and empirical test of the research-informed South African Relationship Functioning Assessment (SARFA)

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**Abstract**

Intimate partners play an important role in chronic diseases. Despite the chronic disease burden in sub-Saharan Africa, very few culturally relevant quantitative measures of intimate relationship functioning are available. We conducted an empirical investigation evaluating the psychometric properties of the South African Relationship Functioning Assessment (SARFA) assessing healthy relationship functioning in $N = 150$ community members (50% women; $M$ age = 27.2 years) living in the Vulindlela area of KwaZulu-Natal, South Africa. Item development was based on prior qualitative research from two South African communities. All assessments were conducted in isiZulu, participants' primary language. An exploratory factor analysis was conducted on the initial 39-item measure. The best-fitting model consisted of

**Statement of Relevance**: Intimate relationships play a key role in health behaviors, so it is important to measure these relationships accurately. Though countries in southern Africa are disproportionately burdened by health problems, quantitative assessments of healthy relationships do not exist. We developed and evaluated a measure of healthy intimate relationships in isiZulu-speaking South Africans. Our study showed that a 22-item measure was able to adequately measure healthy relationships in this population.

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one factor with 22 items. The SARFA's internal consistency was $\alpha = .94$. Convergent validity was observed via significant positive associations (all $rs \geq .38$, $p < .001$) between the SARFA's total score and measures of trust, emotional intimacy, constructive communication, sexual satisfaction, and relationship control (women only). Divergent validity was observed for women only. Encouraging initial psychometric properties of a culturally relevant measure of relationship functioning in KwaZulu-Natal may have relevance to other communities and potential to be used in research involving couples and health in chronic disease-burdened communities.

**KEYWORDS**
chronic disease, couples, psychometric validation, relationship satisfaction, South Africa

## 1 | INTRODUCTION

In sub-Saharan Africa, the burden of non-communicable diseases is growing, including cardiovascular disease, diabetes, and mental health problems, alongside the burden of chronic infectious diseases, such as HIV and tuberculosis (Gouda et al., 2019). Poor intimate relationship functioning is associated with worse overall health, including poorer cellular immune function, structural markers of cardiovascular disease, and increased risk of mortality (Jaremka et al., 2013; Robles et al., 2014). A number of pathways have linked relationship discord to chronic health problems, via health behaviors such as sleep and diet, as well as via biological mechanisms, such as inflammatory metabolic processes (Kiecolt-Glaser & Wilson, 2017). As such, working with couples in the treatment and prevention of chronic health problems, known as a couple-based interventions, is an important treatment option and an established intervention approach (Darbes et al., 2019; Fischer et al., 2016; Hampanda et al., 2022).

Yet in sub-Saharan Africa, research concerning intimate relationships has largely been conducted as a corollary to understanding other health issues, particularly for women. There is a long-standing history of documenting high rates of intimate partner violence (IPV) in the region (McCloskey et al., 2016), which is a demonstrated risk factor for HIV acquisition in women (Durevall & Lindskog, 2015; Kuchukhidze et al., 2023). Research has also focused on improving sexual and reproductive health by understanding sexual communication (Fernandes et al., 2023) and transactional sex and multiple sexual partners (Robyn et al., 2021; Stoebenau et al., 2016). More recently, efforts have been made to incorporate male partners into antenatal care as a strategy to improve health outcomes for women and children (Clark et al., 2020; Nkwonta & Messias, 2019). Taken together, these studies demonstrate the importance of considering the role of intimate partners and relationship dynamics in the context of improving health outcomes. Given that couple-based interventions also aim to enhance the couple's relationship functioning,

in addition, to improve coping and uptake of health behaviors (Baucom et al., 2012), it is necessary to be able to accurately measure healthy relationships in sub-Saharan Africa.

To date, culturally derived measurement of relationship functioning in this region has received limited attention. A number of qualitative studies in South Africa, Eswatini, Rwanda, and Uganda have been conducted to better understand how healthy intimate relationships are defined and experienced in the local context (Belus et al., 2019, 2021; Crankshaw et al., 2016; Hampanda et al., 2021; Ruark et al., 2019; Ruark, Stern, et al., 2017; Starmann et al., 2017). Several studies describe communication and solving problems as key tenets of a successful relationship (Belus et al., 2019, 2021; Crankshaw et al., 2016; Hampanda et al., 2021). Across contexts, positive interactions between partners have been described as fostering intimacy, trust, and respect, and leading to less violence (Belus et al., 2019; Starmann et al., 2017). Other important aspects of healthy relationships have included displays of affection and sexual fidelity (Belus et al., 2019, 2021; Crankshaw et al., 2016; Ruark et al., 2019; Ruark, Stern, et al., 2017).

Taken together, these qualitative studies have identified a number of relevant constructs that are considered central to healthy relationships, such as sexual fidelity and provision of financial resources, which are not explicitly reflected in measures assessing relationship functioning developed in Western contexts (Cepukiene, 2019; Graham et al., 2011). Conducting preliminary qualitative work with the population of interest is therefore a key strategy to ensure that a quantitative measure is culturally appropriate. Existing quantitative measures of relationship functioning in sub-Saharan Africa have used qualitative work to varying degrees to inform measurement development. This includes a study in Malawi that used existing Western-validated measures (no initial qualitative work; Ruark, Chase, et al., 2017), a study in South Africa focused on adults that used qualitative work from an existing study conducted with adolescents and young adults (Belus et al., 2018), and another study in Malawi that conducted its own qualitative work with the relevant population, but their measure evaluated sexual satisfaction only (Conroy et al., 2021).

We sought to address some of the limitations of prior work by conducting qualitative work on how healthy relationships are defined by Black South African men and women living in disadvantaged communities. We first conducted focus group discussions with isiXhosa-speaking men and women in Cape Town who had previously participated in a couple-based intervention for men's alcohol use. We found four themes related to healthy relationships: active relationship building (prioritizing the relationship and incorporating one's partner into life), emotional support/display (showing affection and providing partner with various types of support), open communication (listening and understanding, disclosing details or sharing about one's own experience), and adaptive problem-solving (talking things out instead of using violence, negotiating, and comprising; Belus et al., 2019).

However, given the possibility that prior experiences with a couple-based intervention influenced participants' perceptions of community norms and definitions of healthy relationships, we subsequently conducted individual interviews with isiZulu-speaking men and women who were naïve to couple-based interventions in the Vulindlela region of KwaZulu-Natal (Belus et al., 2021). Collecting data from two different cultural groups also allowed us to generate findings that were potentially more generalizable. Overall, we found similar themes regarding community definitions of healthy relationships in our second qualitative study, except that emotional support/display did not emerge as its own factor. Instead, some of the behaviors that were part of this construct were categorized within other themes; for example, affection was categorized within active relationship building because it was discussed as a strategy to demonstrate one's feelings and build a connection.

Based on this qualitative work, the goal of the current study was to develop a quantitative assessment of healthy heterosexual adult romantic relationships that were rooted in local (South African) definitions of adult healthy relationships, rather than adapting measures that were specifically developed for Western contexts. We sought to develop a culturally relevant quantitative measure capturing the healthy relationships domains that emerged from the qualitative data and gather initial empirical evidence on the measure's psychometric properties. Findings from this research have the potential to be used in intervention research addressing health issues with couples in South Africa.

## 2 | METHODS

### 2.1 | Study design and setting

The overall design of this research was an exploratory sequential mixed methods approach, which is an established mixed methods design for instrument development. Initial qualitative work is first conducted to identify relevant constructs, which is then psychometrically evaluated in a subsequent quantitative analysis (Edmonds & Kennedy, 2017). The current study reports on the quantitative phase of this research.

Our study took place in the Vulindlela community in the province of KwaZulu-Natal, South Africa. Many parts of the province are under traditional authority, meaning that there is a local chief who has primary legal and social authority over constituents. Residents in the region often have low income, given that almost one third of adults are unemployed and approximately 16% work in the informal sector (Statistics South Africa, 2023). With regard to relationships, monogamous relationships are the most common relationship structure (Hosegood et al., 2009). However, polygamous relationships account for ~12–14% of marriages in the province (Hosegood et al., 2009), though in general, marriage rates in South Africa have been in decline for the past decade (Statistics South Africa, 2022). Traditional gender norms and strict beliefs about the roles of men and women tend to be higher in communities under traditional authority throughout South Africa (Ainslie & Kepe, 2016).

### 2.2 | Participants and procedures

For the current study, we used a community outreach approach and convenience sampling to recruit participants between February and March 2020. Our team attended busy community locations, such as taxi ranks and community centers, and approached individual men and women (not couples) and briefly explained that the purpose of the study was to better understand romantic relationships in the local context. Participant eligibility was as follows: at least 18 years old; currently in a heterosexual, monogamous romantic relationship (no minimum relationship length required); residing in the local community; and able to comfortably communicate in either isiZulu (local language) or English. Participants who met eligibility criteria completed informed consent procedures. Enrolled participants completed self-report assessments regarding various aspects of their relationship functioning. Measures were administered in an interview style with a trained research assistant. All measures were forward- and back-translated from English into isiZulu, and the study was approved by the local research ethics board.

A total of $N = 150$ eligible participants were enrolled in the study, with an equal number of men and women ($n = 75$ each). All participants identified as Black African and Zulu speaking.

Just over a quarter of the sample was employed, 54.4% had running water inside the home, and 23.5% reported not having enough to eat at least once in the past month. With regard to relationship characteristics, participants had been with their partners for an average of 4.75 years (SD = 4.56), but a minority were married, engaged, or cohabitating (18.7%). Details are found in Table 1.

## 2.3 | Measures

### 2.3.1 | South Africa Relationship Functioning Assessment (SARFA)

Participants completed 39 questions about various domains of their relationship in the past 3 months. Items were rated on a 6-point Likert scale of either frequency 1 (*never*) to 6 (*all the time*) or agreement with the statement 1 (*not at all true*) to 6 (*completely true*), depending on the item's content. Three items were reverse scored. Average scores were used on the final subset of items, with higher values associated with more intimate, supportive, and collaborative relationship qualities.

Questions were based on our team's prior qualitative work from Cape Town and Vulindlela (Belus et al., 2019, 2021). In the first qualitative study, four relationship domains emerged: active relationship building, emotional support/display, open communication, and adaptive problem-solving. Although our subsequent qualitative work in Vulindlela suggested the possibility of only three distinct factors (active relationship building, open communication, and adaptive problem-solving), items were initially developed to correspond to the four-factor

**TABLE 1** Demographics and clinical characteristics of the sample.

| Variable | Total ($N = 150$), | Women ($n = 75$), | Men ($n = 75$), | $p$ |
|---|---|---|---|---|
| Age, *M* (SD) | 27.17 (6.55) | 27.13 (6.63) | 27.20 (6.52) | .95 |
| Education (completed high school or above), % (*n*) | 67.3 (101) | 69.3 (52) | 65.3 (49) | .60 |
| Employed, % (*n*) | 26.7 (40) | 22.7 (17) | 30.7 (23) | .27 |
| Student, % (*n*) | 13.3 (20) | 13.3 (10) | 13.3 (10) | 1.00 |
| Household items owned (e.g., bed, gas or electric stove, television; out of 10), *M* (SD) | 7.07 (1.65) | 6.77 (1.86) | 7.37 (1.34) | .40 |
| Running water inside home, % (*n*) | 54.4 (81) | 62.2 (46)[a] | 46.7 (35) | .06 |
| Not enough to eat at least once in the past month, % (*n*) | 23.5 (35) | 20.3 (15)[a] | 26.7 (20) | .36 |
| Relationship length in years, *M* (SD) | 4.75 (4.56) | 5.39 (5.14) | 4.11 (3.82) | .09 |
| Relationship status, % (*n*) | | | | .36 |
| Not cohabitating, married, or engaged | 81.3 (122) | 77.3 (58) | 85.3 (64) | |
| Cohabitating | 8.7 (13) | 9.3 (7) | 8.0 (6) | |
| Married or engaged | 10.0 (15) | 13.3 (10) | 6.7 (5) | |
| Number of children, *M* (SD) | 1.13 (1.07) | 1.19 (1.00) | 1.08 (1.15) | .54 |
| Currently or trying to get pregnant, % (*n*) | 16.7 (25) | 16.0 (12) | 17.3 (13) | .83 |

[a]$n = 74$.

theory. We first pilot tested the items with $N = 30$ participants, using a different community-based sample, to ensure the translations were correct and detect any obvious issues with understanding the item contents. However, we did not conduct formal cognitive testing on the items during this initial phase. Based on our initial qualitative work, items were drafted into four subscales. Items were not adapted from previous measures. Items that assess culturally specific content are highlighted below.

The active relationship building subscale (11 items) was about prioritizing the relationship and intentional behaviors to build a connection and bond. For example, "My partner and I carve out time in our daily lives for our relationship and/or to spend time with each other." One culturally specific item was "My partner and I do tasks together (e.g., go shopping, clean the house, take care of other chores)," as our team's prior qualitative work highlighted the importance of spending time doing tasks or chores together, rather than spending time together doing things for pleasure.

Emotional support/display subscale (11 items) assessed being verbally and physically affectionate in public or private, feeling supported, and knowing how one's partner feels emotionally. For example, "My partner and I are physically affectionate with each other in private, like holding hands, hugging, or kissing." An important, culturally specific distinction among the affection items was to differentiate verbal affection and physical affection as well as differentiate whether the affection was taking place in a public setting or a private space.

The communication subscale (9 items) assessed the extent to which partners share their inner experiences with each other (e.g., thoughts, feelings), feel understood, and trust each other as a result. For example, "My partner and I share details about how our day went with each other (e.g., how you each spent your day, funny things that happened, problems that came up, etc.)." Based on our qualitative work, we developed separate items to assess sharing about day-to-day experiences as well as getting to know one's partner on a deeper level (e.g., life goals, personal values), as these were distinct components of communication.

Finally, the problem-solving subscale (7 items) assessed the use of verbal joint discussions, the avoidance of physical or verbal violence, and the experience of respect and feeling valued by one's partner. An item from this subscale is "When my partner and I disagree, we listen to each other's perspectives as we try to solve the issue." A culturally specific item was the avoidance of violence as a way for the couple to solve their issues.

### 2.3.2 | Trust

The 8-item Dyadic Trust Scale (Larzelere & Huston, 1980) was used to measure interpersonal trust between partners over the past 3 months. All items were measured with a 7-point Likert scale, ranging from 1 (*very strongly disagree*) to 7 (*very strongly agree*). Several items were reverse scored, and total scores were used. Higher values indicate greater levels of trust in the partner. This measure has previously been used with populations in South Africa and Malawi (Conroy et al., 2021; Woolf-King et al., 2019).

### 2.3.3 | Emotional intimacy

The 6-item emotional intimacy subscale of the Personal Assessment of Intimacy in Relationships (PAIR) was used (Schaefer & Olson, 1981). Respondents rated their answers on a 5-point

Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Example items include "My partner listens to me when I need someone to talk to" and "I sometimes feel lonely when we're together" (item reverse scored). Total scores were used, with higher values indicating a stronger emotional bond with the partner. Previous research in South Africa has used this measure (Van Der Merwe & Greeff, 2015).

### 2.3.4 | Constructive communication

The adapted 9-item constructive communication subscale of the Communications Patterns Questionnaire (CPQ) assessed various facets of open communication, including avoidance of discussing relationship issues, expression of feelings during discussions, and collaborative problem-solving (Crenshaw et al, 2017). All items were rated on a 9-point Likert scale ranging from 1 (*very unlikely*) to 9 (*very likely*), with higher scores indicating more resolution and collaborative discussion. This measure has been used previously with South African and Ugandan couples (Ruark et al., 2018; Woolf-King et al., 2019). One item ("After a discussion of a relationship problem, you and your partner withdraw") did not covary well with the other items; additional inspection of the item revealed that the translation was unclear. This item was removed from the measure.

### 2.3.5 | Sexual satisfaction

This single item measured participants' satisfaction with sexual activity with their partner over the past 3 months by asking "Over the past 3 months, how much have you enjoyed sex or sexual activity with your partner?" The item was rated on a 5-point Likert scale of 1 (*not at all*) to 5 (*all of the time*).

### 2.3.6 | Relationship power

The 15-item relationship control subscale of the Sexual Relationship Power Scale was used to assess power dynamics within the relationship over the past 3 months (Pulerwitz et al., 2000). Items assess the extent to which the respondent is able to exert control in the relationship and experiences the relationship as equal. Items are measured on a 4-point Likert scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*). Example items include "My partner always wants to know where I am" and "My partner gets more out of the relationship than I do." Higher values indicate greater relationship control from the perspective of the respondent. This measure has previously been used in South Africa (Conroy et al., 2016; Dunkle et al., 2004; Minnis et al., 2015).

### 2.3.7 | Decision-making inequity

The 8-item decision-making dominance subscale of the Sexual Relationship Power Scale was used to assess who has more decision-making power in the relationship across various domains, such as using condoms or going out with friends (Pulerwitz et al., 2000). Response options are

1 (*your partner*), 2 (*both you and your partner*), and 3 (*you*). Responses indicating that either partner alone had more decision-making power (response options *your partner* or *you*) reflected an inequitable relationship (given a score of 1). Shared decision-making indicated a more equitable relationship (given a score of 0). The average across the items was taken, with scores closer to 1 indicative of more inequitable decision-making. This measure and approach to scoring have previously been used in prior studies with South African couples (Belus et al., 2020).

#### 2.3.8 | Intimate partner violence

We used 9 items from the World Health Organization's questionnaire assessing physical violence, sexual violence, and controlling behaviors by one's partner in the past 12 months (García-Moreno et al., 2005). Respondents rated the frequency of the violent and controlling behaviors with a 4-point Likert scale of 1 (*never*) to 4 (*many times*). Scores were dichotomized, with reports of any prior relationship violence coded as 1; otherwise, participants were given a score of 0.

## 3 | DATA ANALYSIS

We conducted an exploratory factor analysis (EFA) to examine the factor structure of the South African Relationship Functioning Assessment (SARFA). Although the development of the measure was informed by theory and prior qualitative work (Belus et al., 2019, 2021), this was the first attempt to develop a quantitative assessment tool to capture the hypothesized domains. Descriptive statistics of the SARFA items were first conducted. We conducted our EFA using the maximum likelihood estimator with robust standard errors (MLR) in Mplus, Version 8.3 (Muthén & Muthén, 2017). We allowed our EFA to predict one to five factors with an oblique rotation.

To choose the correct number of factors, we examined the scree plot in conjunction with evaluating model results for each of the factor options that were produced (i.e., for a one-factor model, for a two-factor model, etc.). Factor results were also compared to the original theory of relationship functioning based on qualitative methods (Belus et al., 2019; 2021), to inform selecting the correct number of factors. The initial qualitative findings from the Cape Town sample suggested four factors of relationship functioning, whereas the subsequent findings from the Vulindlela sample suggested similar behaviors in three factors. To reduce redundancy and select the best-fitting items, we further followed guidance by Worthington and Whittaker (2006), who suggest retaining items that have a factor loading $\geq$0.40 and removing items that cross load between factors 0.15 less than the highest factor loading. We then ran a subsequent parallel analysis with 95th percentile estimates on the proposed final factor structure to collect additional empirical evidence on the factor structure. Once the finalized model was determined, we took the average across the items for each factor and correlated the scores with the other relationship constructs of interest (e.g., trust, emotional intimacy, sexual satisfaction) to examine convergent and divergent validity. Convergent and divergent validity were evaluated separately by gender to examine how well the measure performed for each group.

## 4 | RESULTS

Results of the scree plot from the initial EFA showed that the vast majority of variance was accounted for by one factor (eigenvalue = 14.67), though factors two through five still had eigenvalues greater than 1 (see Figure 1). Comparing the item loadings and cross-loadings across the various models, as well as consistency with theory, the initial EFA suggested that the three-factor model was the best fit. This model retained 22 items, which fell into three factors: (1) communication, problem-solving, and support (11 items); (2) showing affection and spending time together (5 items); and (3) relationship openness, connection, and future orientation (6 items; see Table 2 for the factor loadings). Using the final 22 items, we re-ran the EFA with parallel analysis and it showed that the sample eigenvalue for only the one-factor model was above the 95% parallel analysis threshold. This suggests that the one-factor model, broadly covering the construct of overall relationship functioning, was empirically the best fit for the data, despite initial support for the three-factor model. Using the full sample, the reliability estimate for the 22-item SARFA was $\alpha = .94$. See Table A1 in the Appendix for the final measure in English and isiZulu.

Based on this empirical result, we examined convergent and divergent validity using the total average score on the final 22-item SARFA (i.e., the one-factor model) by correlating it with the other relationship functioning measures, separately for men and women. Table 3 presents the descriptives of all relationship measures and Table 4 shows the correlations between the various measures. As predicted, there were significant positive associations for women between the SARFA and constructs of trust, emotional intimacy, constructive communication, sexual satisfaction, and relationship control (all $r$s $\geq .38$, $p < .001$); there were also significant negative associations between the SARFA and decision-making inequity ($r = -.27$, $p = .019$) and experience of IPV ($r = -.34$, $p = .003$) for women. For men, there were significant positive associations between the SARFA and trust, emotional intimacy, constructive communication, and sexual satisfaction (all $r$s $\geq .41$, $p < .001$). Relationship control was positively associated, whereas decision-making inequity and IPV were negatively associated with the SARFA, but were not statistically significant.

## 5 | DISCUSSION

This study sought to provide initial empirical evidence of a culturally informed quantitative assessment of relationship functioning for women and men living in KwaZulu-Natal, South Africa. We found the most support for a 22-item instrument, with all items loading onto one factor of overall relationship functioning. The final instrument demonstrated strong psychometric evidence, with good convergent and divergent validity with other relevant constructs, especially for women. This study provides an initial foundation on which future research can build to further evaluate the proposed measure in various populations, both within South Africa and beyond, and can be used in health intervention research with couples.

Our findings indicate that a one-factor model is the best fit, which is consistent with the relationship assessment tool developed in Malawi using existing Western-based measures (Ruark, Chase, et al., 2017). The challenge of empirically identifying the correct number of factors in relationship functioning assessments also plagues assessment measures developed in Western contexts, which have been in use for decades. For example, the Dyadic Adjustment Scale (Spanier, 1976), a commonly used tool in the United States, has undergone numerous

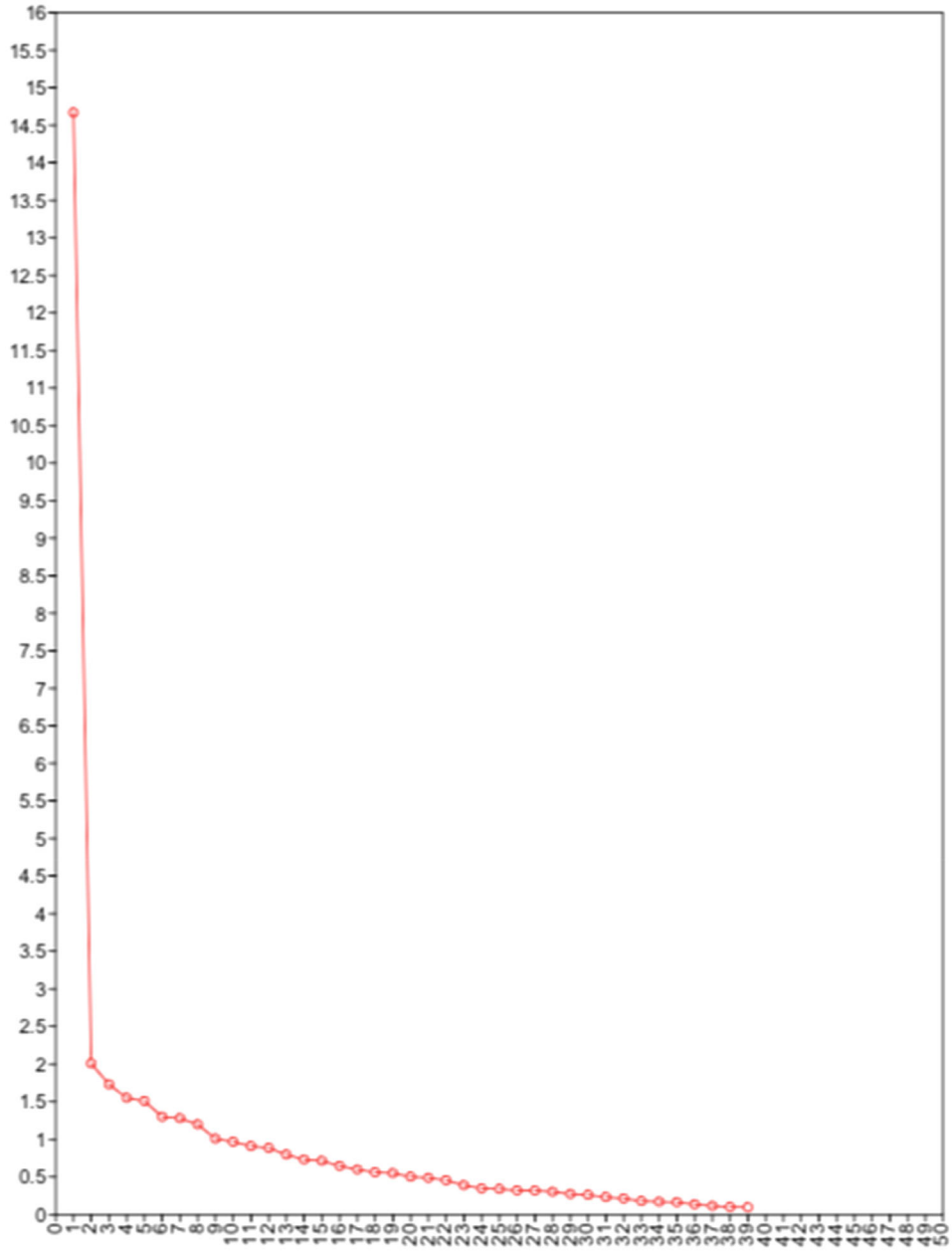

FIGURE 1 Scree plot of the initial exploratory factor analysis.

follow-up evaluations to determine the appropriate factor structure, with no clear consensus (see Graham et al., 2006 for a review). It is therefore very possible that a different factor structure of the SARFA, for example, a three- or four-factor model, may emerge in future research after further empirical evaluation.

Regarding the final set of items, those that were excluded were primarily differently worded versions of the included items. However, two exceptions (i.e., items that were deleted but had unique content) related to spending time together/prioritizing each other and being verbally

**TABLE 2** Items on South African Relationship Functioning Assessment (SARFA) in the three-factor model.

| Item | Factor 1 | Factor 2 | Factor 3 |
|---|---|---|---|
| 1. My partner and I prioritize each other and our relationship | 0.368* | 0.062 | 0.196 |
| 2. My partner and I spend quality time together | 0.160 | 0.078 | 0.331* |
| 3. My partner and I do tasks together (e.g., go shopping, clean the house, take care of other chores) | 0.239 | −0.046 | 0.395* |
| 4. My partner and I carve out time in our daily lives for our relationship and/or to spend time with each other | 0.248 | 0.058 | 0.285 |
| 5. **I tell other people (e.g., friends, family, colleagues, neighbors) about my partner and our relationship** | 0.017 | −0.030 | **0.402*** |
| 6. **When I spend time with my partner, I feel closer to him/her** | 0.159 | **0.497*** | 0.022 |
| 7. When I spend time with my partner, I feel that we develop a stronger bond | 0.128 | 0.363 | 0.316 |
| 8. My partner and I talk about our future together | 0.314* | 0.015 | 0.369* |
| 9. When my partner and I spend time together, I think more about our future together | 0.114 | 0.357 | 0.405 |
| 10. When my partner and I spend time together, I feel more committed to our relationship | 0.117 | 0.137 | 0.043 |
| 11. My partner and I hide our relationship from friends, family, colleagues, or neighbors (R) | −0.080 | 0.050 | 0.249 |
| 12. My partner does not like me being around his/her friends, family, colleagues, or neighbors (R) | 0.050 | −0.191 | 0.214 |
| 13. **My partner and I are verbally affectionate with each other in private, like saying "I love you" or other sweet things to each other** | 0.203 | **0.495*** | 0.079 |
| 14. My partner and I are verbally affectionate with each other in front of other people, like saying "I love you" or other sweet things to each other | −0.026 | 0.316 | 0.275 |
| 15. **My partner and I are physically affectionate with each other in private, like holding hands, hugging, or kissing** | 0.233 | **0.633*** | −0.154 |
| 16. My partner and I are physically affectionate with each other in public, like holding hands, hugging, or kissing | −0.081 | 0.139 | 0.326 |
| 17. **I feel cared about when my partner shows me affection (e.g., holds my hand, tells me he/she loves me)** | 0.030 | **0.724*** | 0.210 |
| 18. **When my partner shows me affection (e.g., holds my hand, says sweet things to me), it is because he/she loves or cares about me** | −0.136 | **0.641*** | 0.414 |
| 19. **My partner is supportive of me** | **0.492*** | 0.143 | 0.241 |
| 20. **My partner tries his/her best to understand me (e.g., thoughts, feelings, needs)** | **0.763*** | 0.109 | −0.121 |
| 21. I know how my partner feels about me | 0.420* | −0.068 | 0.405 |
| 22. **When I know how my partner feels about me, I think more about our future together** | 0.209 | 0.006 | **0.601*** |
| 23. When I know how my partner feels about me, I feel more committed to our relationship | −0.004 | 0.092 | 0.324 |

**TABLE 2** (Continued)

| Item | Factor 1 | Factor 2 | Factor 3 |
|---|---|---|---|
| 24. **My partner and I share what we think and feel with each other** | **0.521*** | 0.365 | −0.009 |
| 25. My partner and I disclose personal details of our lives to each other | 0.346* | 0.244 | 0.229 |
| 26. **My partner and I really know each other on a deeper level (e.g., desires, life goals, personal values, what's important to each person)** | **0.531*** | −0.066 | 0.357 |
| 27. **My partner and I share details about how our day went with each other (e.g., how you each spent your day, funny things that happened, problems that came up, etc.)** | **0.442*** | 0.337 | 0.012 |
| 28. My partner listens to me when I talk | 0.525* | −0.001 | 0.383 |
| 29. **When my partner shares details of his/her day with me, I feel that I get to know him/her a little bit better** | 0.053 | −0.002 | **0.816*** |
| 30. **When my partner shares his/her personal thoughts and feelings with me, I feel that I get to know him/her a little bit better** | −0.005 | 0.246 | **0.645*** |
| 31. **Over time, I trust my partner more because I know him/her better** | 0.295 | 0.041 | **0.508*** |
| 32. **Over time, I have become more comfortable disclosing personal thoughts and feelings to my partner** | 0.276 | 0.013 | **0.596*** |
| 33. **When my partner and I disagree, we talk out the issue in a considerate way** | **0.621*** | −0.046 | 0.180 |
| 34. When my partner and I disagree, we talk out the issue, but it involves yelling, verbal threats, or other harsh language (R) | 0.365 | −0.036 | 0.074 |
| 35. **When my partner and I disagree, we use violence to solve the issue** (R) | **0.532*** | 0.100 | −0.106 |
| 36. **When my partner and I disagree, we listen to each other's perspectives as we try to solve the issue** | **0.624*** | −0.009 | 0.225 |
| 37. **When my partner and I disagree, we incorporate each of our perspectives/ideas to come up with a solution** | **0.643*** | 0.004 | 0.181 |
| 38. **I feel respected by my partner in the way that we handle problems or issues in our relationship** | **0.769*** | −0.004 | 0.006 |
| 39. **My partner values my thoughts and opinions** | **0.617*** | 0.032 | 0.190 |

*Note*: Bolded items are those included in the final version of the measure.

Abbreviation: (R), item is reverse scored.

*Item significantly loaded onto factor at $p < .05$.

and physically affectionate in front of other people. It is important to consider the final selected items in conjunction with the study's sample characteristics. Our sample was relatively young (average age of 27 years), which is consistent with the region having a high concentration of adults under 30 years old (Statistics South Africa, 2018). The young age likely explains why less than 20% of our sample were cohabitating, engaged, or married, despite being together for almost 5 years on average. Affection in the presence of others, especially physical affection, is often considered disrespectful to elders when the couple is unmarried (Rice, 2017). However,

**TABLE 3** Descriptives for relationship measures.

| | | | Total ($N = 150$) | | Women ($n = 75$) | | Men ($n = 75$) | |
|---|---|---|---|---|---|---|---|---|
| | **Measure** | **Scoring (higher scores)** | ***M* (SD) [range]** | ***α*** | ***M* (SD) [range]** | ***α*** | ***M* (SD) [range]** | ***α*** |
| SARFA total score | 22-Items | More intimate, supportive, and collaborative relationships | 4.92 (0.95) [1.68–6.00] | $\alpha = .94$ | 4.86 (1.05) [1.68–6.00] | $\alpha = .95$ | 4.97 (0.83) [2.77–6.00] | $\alpha = .93$ |
| Trust | 8-Item Dyadic Trust Scale (Larzelere & Huston, 1980) | Greater trust | 37.84 (7.42) [11–56] | $\alpha = .86$ | 36.51 (7.70)[a] [11–56] | $\alpha = .87$ | 39.18 (6.81)[a] [11–56] | $\alpha = .83$ |
| Emotional intimacy | 6-Item subscale of the Personal Assessment of Intimacy in Relationships (PAIR) (Schaefer & Olson, 1981) | Greater intimacy | 22.03 (4.20) [8–30] | $\alpha = .77$ | 21.53 (4.45) [8–30] | $\alpha = .80$ | 22.52 (3.89) [11–30] | $\alpha = .73$ |
| Constructive communication | 9-item subscale of the Communications Patterns Questionnaire (CPQ) (Crenshaw et. al, 2017)[b] | Greater open communication | 57.57 (9.57) [15–72] | $\alpha = .73$ | 56.33 (9.88) [25–72] | $\alpha = .70$ | 58.83 (9.13)[a] [15–70] | $\alpha = .75$ |
| Sexual satisfaction | "Over the past 3 months, how much have you enjoyed sex or sexual activity with your partner?" | Greater sexual satisfaction | 4.22 (0.99) [1–5] | - | 4.27 (1.06)[a] [1–5] | - | 4.16 (0.93)[a] [1–5] | - |
| Relationship control | 15-Item subscale of the Sexual Relationship Power Scale (Pulerwitz et al., 2000) | Greater relationship control from the respondent perspective | 2.87 (0.39) [1.47–4.0] | $\alpha = .80$ | 2.85 (0.43) [1.47–4.0] | $\alpha = .86$ | 2.89 (0.34) [2.13–3.67] | $\alpha = .69$ |
| Decision-making inequity | 8-Item decision-making dominance subscale of the Sexual Relationship Power Scale | Greater decision-making inequity | 0.53 (0.27) [0.00–1.00] | $\alpha = .65$ | 0.51 (0.27) [0.00–1.00] | $\alpha = .60$ | 0.54 (0.27) [0.00–1.00] | $\alpha = .69$ |
| Intimate partner violence victimization (any), % ($n$) | 9-Item World Health Organization physical and sexual violence, and controlling behaviors (García-Moreno et al., 2005) | Any violence | 50.0 (75) | - | 45.3 (34) | - | 54.7 (41) | - |

[a]$n = 73$.

[b]One item was removed from the measure because it did not covary well with the other items. Upon further inspection, the translation was unclear.

**TABLE 4** Correlations between South African Relationship Functioning Assessment (SARFA) measure and other relationship constructs for women and men.

| | Women | | Men | |
|---|---|---|---|---|
| **Relationship constructs** | ***r*** | ***p*** | ***r*** | ***p*** |
| Trust | .69 | <.001 | .53 | <.001 |
| Emotional intimacy | .57 | <.001 | .41 | <.001 |
| Constructive communication | .60 | <.001 | .56 | <.001 |
| Sexual satisfaction | .50 | <.001 | .47 | <.001 |
| Relationship control | .38 | <.001 | .20 | .088 |
| Decision-making inequity | −.27 | .019 | −.16 | .167 |
| Intimate partner violence | −.34 | .003 | −.20 | .089 |

the cultural practice of paying "bride price," which involves men paying money or giving other assets to the family of the woman they wish to marry, is unaffordable to a growing proportion of the population (Posel et al., 2011), despite positive attitudes toward marriage in Black South Africans (Moore & Govender, 2013).

Moreover, our sample had very low levels of employment, with only about one third employed, compared to about 63% in the region. However, higher unemployment rates are concentrated among young adults in South Africa (Statistics South Africa, 2023). These higher unemployment rates, which in addition to possibly explaining lower marriage rates, may also account for many challenges that people experience in their daily life, such as food insecurity and housing instability. People may find it difficult to prioritize their romantic relationship in this environment. Modification of item wording in the future may be needed to appropriately acknowledge these competing challenges in the context of relationship prioritization.

Finally, we found that our measure showed more consistent convergent and divergent validity in women than in men. For women, our measure negatively correlated with pernicious relationship outcomes of IPV victimization and inequitable decision-making. It may be that our measure is more attuned to the relational experiences and needs of women, despite conducting qualitative work with both men and women. Or it may be that decision-making inequity and IPV victimization result in different relational experiences for men and women. For example, a lack of decision-making power for women has a negative association with women's health and well-being in sub-Saharan Africa (Annan et al., 2021). This may be less relevant for men who hold more power than women (United Nations Development Programme, 2018), and as a result, this construct may not have a demonstrable impact on their relationship functioning.

This study has implications for clinical research. Loss of marital status has been associated with more depressive symptoms and poorer nutritional status in sub-Saharan Africa, suggesting a need to bolster intimate relationships in the region (Djuikom & van de Walle, 2022; Jennings et al., 2022). The utility of couple-based interventions to address the HIV epidemic (Crepaz et al., 2015; Darbes et al., 2019; Hampanda et al., 2022) as well as to reduce alcohol use (Sheikh et al., 2017; Wechsberg et al., 2016) has already been demonstrated in sub-Saharan Africa. However, these studies typically use measures of relationship functioning that have been developed in Western contexts, which may not fully capture all relevant aspects of the relationship. The SARFA could therefore be used to assess how couple-based interventions addressing health

issues also impact relationship functioning over time using a more culturally sensitive tool, which may be able to more fully capture relationship nuances in the population.

### 5.1 | Limitations

The intended population for this measure is Black South Africans across all cultural groups. However, we recognize that our initial qualitative work only included participants from two cultural groups (isiXhosa and isiZulu speakers), and the current study utilized a sample of relatively young heterosexual community members who were recruited using convenience sampling from a single community in KwaZulu-Natal. It is therefore unclear to what extent the current findings would extend to other communities in the region, as well to other cultural groups, individuals in same-gender relationships, or older adults in South Africa. Furthermore, although the items selected were theory-driven based on qualitative work in relevant communities, we did not conduct formal cognitive testing of the items prior to using them. It is therefore possible that excluded items were difficult to comprehend rather than conceptually less relevant. Moreover, a relatively small sample size was utilized for the current investigation, which can lead to unstable results that do not generalize to other samples or populations (Worthington & Whittaker, 2006).

These limitations are mitigated by this being an initial test of the proposed instrument. Our findings, including the final number of factors that emerged in the instrument, should be viewed as preliminary, and we encourage other researchers to conduct additional validation studies on the assessment tool. In particular, the SARFA could also serve as the basis for adaptations in other countries in sub-Saharan Africa, rather than researchers from this region starting with Western-developed measures. Finally, we did not assess other relevant psychometric properties of the instrument, including test–retest reliability or criterion-related validity. These dimensions are important for scale development and must be conducted before an instrument is finalized (DeVellis, 2012).

## 6 | CONCLUSIONS

Overall, this study provides empirical support for a theory-informed measure of relationship functioning in Black African adults living in KwaZulu-Natal, South Africa. The final items on the measure include several culturally specific items, in addition to items that are similar to existing measures developed in Western contexts. Our study provides a basis on which other researchers can build upon and adapt the assessment tool for their own context, ideally with the use of qualitative work to identify culturally specific constructs that need to be accounted for. We hope the use of this tool, and future iterations, will allow for a valid way to assess the central construct of relationship health for underserved groups.

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## DATA AVAILABILITY STATEMENT

The data used in the research cannot be publicly shared but are available upon request from the first author via email (jennifer.belus@unibas.ch). The materials used in the research are available upon request from the first author via email (jennifer.belus@unibas.ch).

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## APPENDIX

**TABLE A1** Final 22-item version of the South African Relationship Functioning Assessment (SARFA) in English and isiZulu.

| Item | Response option |
|---|---|
| 5. I tell other people (e.g., friends, family, colleagues, neighbors) about my partner and our relationship.<br>Ngitshela abanye abantu (abangani, esisebenza nabo, omakhelwane) mayelana nomlingani wami kanye nobudlelwane bethu. | Never (Nhlobo)<br>Rarely (Okungajwayelekile)<br>Occasionally (Ngezikhathi ezithile)<br>More often than not (Kaningi kunalokho)<br>Most of the time (Isikhathi esiningi)<br>All the time (Ngasosonke iskhathi) |
| 6. When I spend time with my partner, I feel closer to him/her.<br>Uma ngichitha isikhathi nomlingani wami, ngizizwa ngisondelene naye. | Never (Nhlobo)<br>Rarely (Okungajwayelekile)<br>Occasionally (Ngezikhathi ezithile)<br>More often than not (Kaningi kunalokho)<br>Most of the time (Isikhathi esiningi)<br>All the time (Ngasosonke iskhathi) |
| 13. My partner and I are verbally affectionate with each other in private, like saying "I love you" or other sweet things to each other.<br>Mina nomlingani wami, siyathandana ngokukhuluma emfihlakalweni, njengokutshelana ukuthi "ngiyakuthanda" noma izinto ezinhle komunye nomunye. | Never (Nhlobo)<br>Rarely (Okungajwayelekile)<br>Occasionally (Ngezikhathi ezithile)<br>More often than not (Kaningi kunalokho)<br>Most of the time (Isikhathi esiningi)<br>All the time (Ngasosonke iskhathi) |
| 15. My partner and I are physically affectionate with each other in private, like holding hands, hugging, or kissing.<br>Mina nomlingani wami, siyathandana ngokuthintana emfihlakalweni, njengokubambana izandla, ukwangana, nokuqabulana. | Never (Nhlobo)<br>Rarely (Okungajwayelekile)<br>Occasionally (Ngezikhathi ezithile)<br>More often than not (Kaningi kunalokho)<br>Most of the time (Isikhathi esiningi)<br>All the time (Ngasosonke iskhathi) |
| 17. I feel cared about when my partner shows me affection (e.g., holds my hand, tells me he/she loves me).<br>Ngizizwa nginakekelekile uma umlingani wami engikhombisa uthando (isib. engibamba izandla, engitshela ukuthi uyangithanda). | Not at all true (Akulona iqiniso)<br>A little true (Kuyiqiniso kancane)<br>Somewhat true (Okuyiqiniso nje)<br>Mostly true (kuyiqiniso kaningi)<br>Almost completely true (Cishe kube yiqiniso ngokuphelele)<br>Completely true (Kuyiqiniso ngokuphelele) |
| 18. When my partner shows me affection (e.g., holds my hand, says sweet things to me), it is because he/she loves or cares about me.<br>Uma umlingani wami engikhombisa uthando (isib. engibamba izandla, esho izinto ezinhle), ingoba uyangithanda noma uyanginakekela. | Not at all true (Akulona iqiniso)<br>A little true (Kuyiqiniso kancane)<br>Somewhat true (Okuyiqiniso nje)<br>Mostly true (kuyiqiniso kaningi)<br>Almost completely true (Cishe kube yiqiniso ngokuphelele)<br>Completely true (Kuyiqiniso ngokuphelele) |

(Continues)

**TABLE A1** (Continued)

| Item | Response option |
|---|---|
| 19. My partner is supportive of me.<br>Umlingani wami uyangisekela. | Never (Nhlobo)<br>Rarely (Okungajwayelekile)<br>Occasionally (Ngezikhathi ezithile)<br>More often than not (Kaningi kunalokho)<br>Most of the time (Isikhathi esiningi)<br>All the time (Ngasosonke iskhathi) |
| 20. My partner tries his/her best to understand me (e.g., thoughts, feelings, needs).<br>Umlingani wami uyazama ngayo yonke indlela ukungiqonda (isib. imicabango, imizwa, izidingo). | Never (Nhlobo)<br>Rarely (Okungajwayelekile)<br>Occasionally (Ngezikhathi ezithile)<br>More often than not (Kaningi kunalokho)<br>Most of the time (Isikhathi esiningi)<br>All the time (Ngasosonke iskhathi) |
| 22. When I know how my partner feels about me, I think more about our future together.<br>Uma ngazi ukuthi umlingani wami uzizwa kanjani ngami, ngicabanga kakhulu ngekusasa lethu. | Not at all true (Akulona iqiniso)<br>A little true (Kuyiqiniso kancane)<br>Somewhat true (Okuyiqiniso nje)<br>Mostly true (kuyiqiniso kaningi)<br>Almost completely true (Cishe kube yiqiniso ngokuphelele)<br>Completely true (Kuyiqiniso ngokuphelele) |
| 24. My partner and I share what we think and feel with each other.<br>Mina nomlingani wami siyakhuluma ngesikucabangayo. | Never (Nhlobo)<br>Rarely (Okungajwayelekile)<br>Occasionally (Ngezikhathi ezithile)<br>More often than not (Kaningi kunalokho)<br>Most of the time (Isikhathi esiningi)<br>All the time (Ngasosonke iskhathi) |
| 26. My partner and I really know each other on a deeper level (e.g., desires, life goals, personal values, what's important to each person).<br>Mina nomlingani wami siyaza kakhulu ezingeni elijulile (izifiso, izinhlelo ngempilo, izindinganiso zomuntu siqu, nokubalulekile komunye nomunye). | Not at all true (Akulona iqiniso)<br>A little true (Kuyiqiniso kancane)<br>Somewhat true (Okuyiqiniso nje)<br>Mostly true (kuyiqiniso kaningi)<br>Almost completely true (Cishe kube yiqiniso ngokuphelele)<br>Completely true (Kuyiqiniso ngokuphelele) |
| 27. My partner and I share details about how our day went with each other (e.g., how you each spent your day, funny things that happened, problems that came up, etc.).<br>Mina nomlingani wami siyakhuluma ngokuthi usuku lwethu luhambe kanjani (isib. uluchithe kanjani usuku lwakho, izinto ezihlekisayo ezenzekile, izinkinga engibhekene nazo nokunye nokunye.) | Never (Nhlobo)<br>Rarely (Okungajwayelekile)<br>Occasionally (Ngezikhathi ezithile)<br>More often than not (Kaningi kunalokho)<br>Most of the time (Isikhathi esiningi)<br>All the time (Ngasosonke iskhathi) |
| 29. When my partner shares details of his/her day with me, I feel that I get to know him/her a little bit better. | Not at all true (Akulona iqiniso)<br>A little true (Kuyiqiniso kancane)<br>Somewhat true (Okuyiqiniso nje) |

**TABLE A1** (Continued)

| Item | Response option |
|---|---|
| Uma umlingani wami engitshela imininingwane ngosuku lwakhe, ngizizwa ngimazi kangcono. | Mostly true (kuyiqiniso kaningi)<br>Almost completely true (Cishe kube yiqiniso ngokuphelele)<br>Completely true (Kuyiqiniso ngokuphelele) |
| 30. When my partner shares his/her personal thoughts and feelings with me, I feel that I get to know him/her a little bit better.<br>Uma umlingani ekhuluma engimicabanga kanye. | Not at all true (Akulona iqiniso)<br>A little true (Kuyiqiniso kancane)<br>Somewhat true (Okuyiqiniso nje)<br>Mostly true (kuyiqiniso kaningi)<br>Almost completely true (Cishe kube yiqiniso ngokuphelele)<br>Completely true (Kuyiqiniso ngokuphelele) |
| 31. Over time, I trust my partner more because I know him/her better.<br>Ekuhambeni kwesikhathi, ngiyamethemba umlingani. | Not at all true (Akulona iqiniso)<br>A little true (Kuyiqiniso kancane)<br>Somewhat true (Okuyiqiniso nje)<br>Mostly true (kuyiqiniso kaningi)<br>Almost completely true (Cishe kube yiqiniso ngokuphelele)<br>Completely true (Kuyiqiniso ngokuphelele) |
| 32. Over time, I have become more comfortable disclosing personal thoughts and feelings to my partner.<br>Ekuhambeni kwesikhathi, sengibe okhululekile ngokwengeziwe mayelana nokudalula imicabango kanye nemizwa kamlinganiwami. | Not at all true (Akulona iqiniso)<br>A little true (Kuyiqiniso kancane)<br>Somewhat true (Okuyiqiniso nje)<br>Mostly true (kuyiqiniso kaningi)<br>Almost completely true (Cishe kube yiqiniso ngokuphelele)<br>Completely true (Kuyiqiniso ngokuphelele) |
| 33. When my partner and I disagree, we talk out the issue in a considerate way.<br>Uma mina nomlingani wami singavumelani ngalutho, sikhuluma ngaleyo nkinga ngendlela eyamikelekile. | Never (Nhlobo)<br>Rarely (Okungajwayelekile)<br>Occasionally (Ngezikhathi ezithile)<br>More often than not (Kaningi kunalokho)<br>Most of the time (Isikhathi esiningi)<br>All the time (Ngasosonke iskhathi) |
| 35. When my partner and I disagree, we use violence to solve the issue. (R)<br>Uma mina nomlingani wami singavumelani ngalutho, sisebenzisa udlame ukuze sifinyelele esixazululweni. | Never (Nhlobo)<br>Rarely (Okungajwayelekile)<br>Occasionally (Ngezikhathi ezithile)<br>More often than not (Kaningi kunalokho)<br>Most of the time (Isikhathi esiningi)<br>All the time (Ngasosonke iskhathi) |
| 36. When my partner and I disagree, we listen to each other's perspectives as we try to solve the issue.<br>Uma mina nomlingani wami singevumelani ngalutho, siyalalena imibono yomunye bese sizama ukuxazulula inkinga. | Never (Nhlobo)<br>Rarely (Okungajwayelekile)<br>Occasionally (Ngezikhathi ezithile)<br>More often than not (Kaningi kunalokho) |

(Continues)

**TABLE A1** (Continued)

| Item | Response option |
|---|---|
| | Most of the time (Isikhathi esiningi)<br>All the time (Ngasosonke iskhathi) |
| 37. When my partner and I disagree, we incorporate each of our perspectives/ideas to come up with a solution.<br>Uma mina nomlingani wami singavumelani ngalutho, sihlanganisa imibono yethu ngamunye ukuthi sifinyelele esixazululweni. | Never (Nhlobo)<br>Rarely (Okungajwayelekile)<br>Occasionally (Ngezikhathi ezithile)<br>More often than not (Kaningi kunalokho)<br>Most of the time (Isikhathi esiningi)<br>All the time (Ngasosonke iskhathi) |
| 38. I feel respected by my partner in the way that we handle problems or issues in our relationship.<br>Ngizizwa ngihloniphekile ngendlela esimelana ngayo ngezinkinga ebudlelwaneni bethu. | Never (Nhlobo)<br>Rarely (Okungajwayelekile)<br>Occasionally (Ngezikhathi ezithile)<br>More often than not (Kaningi kunalokho)<br>Most of the time (Isikhathi esiningi)<br>All the time (Ngasosonke iskhathi) |
| 39. My partner values my thoughts and opinions.<br>Umlingani wami uyenza igugu imicabango yami kanye nemibono yami. | Never (Nhlobo)<br>Rarely (Okungajwayelekile)<br>Occasionally (Ngezikhathi ezithile)<br>More often than not (Kaningi kunalokho)<br>Most of the time (Isikhathi esiningi)<br>All the time (Ngasosonke iskhathi) |

Abbreviation: (R), reverse scored.