

Rejection sensitivity, psychological flexibility and quality of life among people living with HIV/AIDS

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Abstract

Several factors have been reported to influence quality of life among people living with HIV/AIDS (PLWHA). The present study investigated the predictive roles of rejection sensitivity and psychological flexibility on quality of life among PLWHA. Participants of the present study were two hundred and eighty participants comprising 175 (62.5%) males and 105 (37.5%) females, from the Sacred Heart Hospital, Obudu, Cross River State, Nigeria. The ages of participants ranged from 21 to 67 years ($M = 39.48$, $SD = 9.03$). A cross-sectional data was collected using the Rejection Sensitivity Questionnaire, the Acceptance and Action Questionnaire-II and the Patient-Reported Outcomes Quality of Life. Hierarchical Multiple Regression was used for statistical analysis. Results of the study showed that rejection sensitivity significantly predicted higher physical health symptoms, lower social relationships, and higher cognitive symptoms. Psychological flexibility significantly predicted higher social relationships, lower cognitive symptoms and higher treatment impact among PLWHA. The findings of the study highlight the need to take necessary measure in the assessment and management of rejection sensitivity, psychological flexibility, and quality of life among PLWHA.

Keywords: People living with HIV/AIDS, Psychological flexibility, Quality of Life, Rejection sensitivity

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Introduction

As of the end of 2019, it was projected that more than 38 million people worldwide were diagnosed with HIV/AIDS (UNAIDS, 2019a). Nigeria had an estimated 1.3% HIV prevalence in 2021, with 1.9 million individuals already living with the virus (UNAIDS, 2019b). HIV/AIDS is a growing threat to public health and a source of additional socioeconomic challenges for people, families, communities, and governments in many nations. The improvement or lack thereof in health experience and patient satisfaction with care is reflected in assessments of quality of life, making them an increasingly relevant outcome measure in HIV/AIDS management (Basavaraj et al., 2010).

How happy and satisfied a person is with their life in general is often used to describe quality of life. Since effective clinical tests and treatments for HIV/AIDS were made available, patients are living longer than ever, and scientists and doctors have been working hard to improve the quality of life of the victims of this disease (Clayson et al., 2006). Antiretroviral therapy, CD4 count (Ghiasvand et al., 2019), duration of infection, route of transmission (Joulaei et al., 2021), being male, living in an urban area, drinking alcohol, going to counseling services, being able to work, and being in the highest wealth quintile have all been shown to affect the quality of life of PLWHA (Mohammed et al., 2021). According to the World Health Organisation (WHO) (1998), quality of life consists of four major domains: the physical domain, which evaluates the effect of disease on everyday activities; the psychological realm, in which the patient's mental and emotional perceptions are evaluated; the social domain, which evaluates personal connections, social support, social contacts, and sexual behavior; and the environmental domain, which assesses areas such as the quality of one's home environment, financial position, and social support (Mannheimer et al., 2005). Past psychological studies (e.g., Kawamoto et al., 2015; Vanhalst & Leary, 2014) have focused on the effects of social factors such as rejection on romantic partners and hypothetical others, however, less is known about how rejection sensitivity may influence quality of life of PLWHA.

Both theory and research point to a close connection between healthy relationships and an individual's emotional and psychological well-being (Braithwaite & Holt-Lunstad, 2017; Whisman & Baucom, 2012; Whisman et al., 2022). Research shows that a person's level of acceptance by their partner has a significant impact on their relationship satisfaction, happiness, and overall quality of life in intimate partnerships (Buyukcan-Tetik et al., 2017; Rippon et al., 2020). Williams (2001) argued that the importance of a sense of community stems from the fact that it influences four of humanity's most fundamental desires: the need to feel accepted, respected, in charge, and that one's life has purpose. According to Smart and Leary (2009), "relational value" refers to how much one thinks their connections are worth to others. At its core, rejection is a negative assessment of a relationship. No matter how much someone is genuinely rejected or accepted in an objective sense, their subjective feeling of rejection is based on their impression of a low degree of acceptance. One's own subjective sensation of rejection is grounded in this evaluation.

Downey and Feldman (1996) suggested the personality trait of "rejection sensitivity" to explain cognitive and emotional processing biases linked to attachment anxiety and low self-esteem, such as false beliefs about the reliability of others and the likelihood of acceptance or rejection. One's level of rejection sensitivity might be defined by how much they anticipate and fear being rejected in meaningful relationships. McDonald et al. (2010) characterized this trait as the propensity to expect rejection nervously from other people. People who are highly sensitive to rejection are more likely to interpret ambiguous interpersonal cues as signifying rejection, thereby causing them distress. These people also strive to please others to protect and/or repair relationships from the rejection threats that they

so readily anticipate and perceive, causing them to be more agreeable than those with low rejection sensitivity (e.g., Romero-Canyas et al., 2010).

Some mental health problems such as depression (Tommy & Sheri, 2013; Wang et al., 2020); anger and aggression (Downey & Feldman, 2006); a poor psychosocial outcome (Canu & Carlson, 2007; Pachankis et al., 2008); and a diminished quality of life (Pachankis et al., 2008) have been linked to a heightened sensitivity to rejection. Sensitivity to rejection results in diminished self-worth, which in turn diminishes one's quality of life (Usman & Khan, 2018). The present paper argues that rejection sensitivity will significantly predict quality of life among PLWHA. In addition to rejection sensitivity, some other factors could be associated with quality of life among PLWHA, such as psychological flexibility which refers to the capacity to adaptively remain resilient or change one's conduct in the current moment, to act in a manner that aligns with one's values, even while experiencing emotional pain or suffering (Hayes et al., 2006).

Technically, psychological flexibility was described as the capacity to be completely present as a human being and to alter or maintain behavior when doing so is likely to lead to positive outcomes (Hayes et al., 2006). Acceptance, cognitive defusion, touch with the present, values, committed action, and self as context are the six pillars of acceptance and commitment therapy that provide the foundation for psychological flexibility (Hayes et al., 2012). Psychological flexibility has been linked to a variety of favorable outcomes, including improved well-being and career success (Davey et al., 2020; Wersebe et al., 2018). The ability of PLWHA to keep a flexible perspective may have an impact on their level of life satisfaction. The stigmatizing effects of negative thoughts and feelings, as well as troublesome avoidance habits, can be mitigated via the use of acceptance and commitment therapy for a variety of mental health problems (Hayes et al., 2006). It was hypothesized in the present study that psychological flexibility will significantly predict quality of life among PLWHA.

Looking at the broaden and build theory of positive emotions (Fredrickson, 2004), it is seen that when people have positive emotions, they are more flexible and productive, which consequently brings about a high level of life satisfaction among them. It has been observed that individuals with high rejection sensitivity are more likely to have negative emotions and low self-esteem, which are aspects that negate the quality of life (Ibrahim et al., 2016; Usman & Khan, 2018). Although psychological flexibility has been linked to a more positive sense of wellbeing (Ramaci et al., 2019), there is a limited study on the explicit use of psychological flexibility to understand quality of life among PLWHA in Cross Rivers State.

To date, it is unclear how rejection due to an HIV/AIDS diagnosis and psychological flexibility influence the quality of life among PLWHA. The link between rejection sensitivity, psychological flexibility and mental health outcomes (Gao et al., 2017; Garner et al., 2023; Hussain et al., 2023) suggest that it may be meaningful to investigate whether they play a role in the health outcomes PLWHA in Cross River State. Cross Rivers State ranks the 7th highest rate of HIV/AIDS prevalence out of the 36 states in Nigeria (Edeh, 2023). Therefore, the main aim of the present study was to investigate the roles of rejection sensitivity and psychological flexibility on quality of life among PLWHA in Cross River State. This study hoped to add to the existing body of knowledge on the quality of life among PLWHA. Drawing on a broad literature reviewed so far in this study, we hypothesized that rejection sensitivity and psychological flexibility would significantly predict quality of life among PLWHA.

Method

Participants

Two hundred and eighty PLWHA drawn from Sacred Heart Hospital, Obudu, Cross-River State, Nigeria participated in the present study. The participants comprised 175 (62.5%) males and 105 (37.5%) females, with a mean age of 39.48 ($SD = 9.03$, ranging from 21 to 67 years). Participants were selected using a purposive sampling technique. Purposive sampling, or judgment sampling, involves intentionally selecting participants based on certain attributes acquired by the participants. In essence, the researcher is responsible for determining the necessary information and actively seeks individuals who possess the requisite characteristics or experience and are prepared to provide it (Lewis & Sheppard 2006). Inclusion criteria were confirmed diagnosis of HIV/AIDS for a period of at least one year, 18 years and above, and literate enough to read and understand English language. With respect to participants' marital status, 52.1% ($n = 146$) were single, and 47.9% ($n = 134$) were married. For the participants' educational qualification, the majority of the participants 53.6% ($n = 150$) had tertiary education and 46.4% ($n = 130$) had secondary education. The majority 92.5% ($n = 259$) of the participants were Christians, 2.9% ($n = 8$) were Muslims, while 4.6% ($n = 13$) were traditionalists. Finally, for the ethnicity of participants, majority 35.4% ($n = 99$) were Bette, 26.4% ($n = 74$) were Tiv, 17.5% ($n = 49$) were Igbo, 9.6% ($n = 27$) were Hausa, 3.2% ($n = 9$) were Yourba, and others were represented by 7.9% ($n = 22$) of the participants

Instruments

Patient-Reported Outcomes Quality of Life (PROQoL)

The 38-item PROQoL (Duracinsky et al., 2012) questionnaire was used to measure the quality of life of PLWHA in terms of health. It comprises four dimension: Physical health symptoms (PHS; for example, in the last two weeks, I've had difficulties with strenuous physical activities like carrying heavy objects, running or walking a long distance, or climbing several levels of stairs); social relationships (SO; for example, in the last two weeks, I've felt like I couldn't be as close to my family or friends because I'm HIV-positive); cognitive symptoms (CS; for example, in the last two weeks, I've had trouble remembering things because I'm HIV; and treatment impact (TI; e.g., During the last two weeks, because I am HIV positive, the number of pills per day has bothered me). Items were rated on a 5-point Likert scale, with 1 being "never" and 5 being "always." The level of HRQoL in each domain goes up as the score in that domain goes up. The developers reported that the alpha reliability was 0.77, and Onu et al. (2019) reported that the alpha reliability among PLWHA in Nigeria was also 0.77. Cronbach's alpha for the PHS, SO, CS, and TI in this study was .77, .74, .82, and .71, respectively.

Rejection sensitivity questionnaire

The Rejection Sensitivity Questionnaire is made up of 18 questions that people answer about how likely they are to worry about being rejected in social situations (RSQ; Downey & Feldman, 1996). The measure gives examples of situations where rejection is possible, like "You ask a friend to do you a big favor" or "You ask your boss for a raise." Participants use six-point likert scales to rate each situation on two different dimensions. Their level of anxiety and concern about the outcome is rated on a scale from 1 (very unconcerned) to 6 (very concerned). From 1 (very unlikely) to 6 (very likely), they rate how likely it is that their expectations will work out ("I would expect that he or she would do this favor for me voluntarily"). Rejection expectation items are scored in the reverse direction, and rejection sensitivity scores are found by adding up the product of each situation's rejection expectations and anxiety about rejection. Higher scores mean that the person is

more sensitive to rejection. The RSQ has been shown to be reliable and valid, and it has a high level of internal consistency (Cronbach's $\alpha = .83$) (Downey & Feldman, 1996). Foster (2021) also demonstrated an internal consistency (Cronbach's $\alpha = .76$). Cronbach's alpha was found to be .85 in this study.

Acceptance and Action Questionnaire-II (AAQ-II)

Bond et al. (2011) made this 7-item measure to see how aware someone is of their thoughts and feelings without letting them stop them from acting in line with their values. Its parts focus on six key processes: acceptance, cognitive diffusion, contacting the present moment, values, committed action, and self as a context. One of the things on the AAQ-II is "My painful experiences and memories make it hard for me to live a life I would value." The items were scored on a 7-point Likert scale that went from 1 (never true) to 7 (always true), with higher scores showing more avoidance of experiences (i.e., lower levels of psychological flexibility). Other researchers have confirmed that this scale has good psychometric properties. For the AAQ-II, the coefficient alpha is 0.74 (Ramaci et al., 2019). Cronbach's alpha was found to be .74 in this study.

Procedure

The study gained ethical approval from the administration of Sacred Heart Catholic Hospital (SHCH) Obudu. Three research assistants who were voluntary workers at an NGO that assist the facility with the Antiretroviral Therapy (ART) programme were recruited to assist in data collection. All the participants gave their written consent. They were told what the study was about. Also, the participants were told that their information would be kept private and would only be used for research. The people who took part in the study were told that they could withdraw from the study at any time. The study's measures were given to each participant individually. Completing the questionnaire took an average of 40–45 minutes.

Data Analysis

This is primarily a survey research, and a cross-sectional survey design was adopted. A cross-sectional study design is used to collect data across a large sample at a specific time (Zangirolami-Raimundo et al., 2018). Hierarchical multiple regression was used to test the hypotheses.

Results

Table 1: Correlation of demographic variables, predictors and dependent variable

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11
1 Gender	-	-	-										
2 Age	39.48	9.03	-.19	-									
3 Relationship status	1.42	.51	-.05	-.23	-								
4 Relationship length	3.34	.78	.14*	-.24**	.03	-							
5 Educational status	3.14	.77	.08	.06	.04	.01	-						
6 Religion	1.12	.45	-.03	.07	.04	-.09	.09	-					
7 Rejection sensitivity	32.14	6.23	.29*	-.22**	-.01	-.15**	.36**	-.03	-				
8 Psychological flexibility	23.99	4.58	.58**	.13*	.09	.05	.35**	.06	-.69**	-			
9 Physical symptoms	22.49	5.05	.23**	.15***	.07	-.06	-.10	.03	-.07	-.04	-		
10 Social relationships	18.41	4.72	.14*	.08	.03	-.03	-.09	.07	-.09*	-.06	-.64**	-	
11 Cognitive symptoms	23.12	5.66	.09	.22**	.02	.03	.26*	-.08	.20**	-.22**	-.06	-.03	-
12 Treatment impact	22.14	5.65	.02	.05	.04	.06	.09	.10	-.13**	.17**	-.03	-.02	-.70**

Note: $N = 280$, * = $p \leq .05$ (two-tailed), ** = $p < .01$ (two-tailed), *** = $p < .001$ (two-tailed).

Gender was coded 1 = male, 2 = female. Relationship length was coded as 1 = less than a year, 2 = a year, 3 = 2 years, 4 = 3 years, 5 = more than 3 years.

Correlation of the variable in Table 1 shows that females had longer relationship length ($r = .14$, $p < .05$), higher rejection sensitivity ($r = .29$, $p < .05$), higher psychological flexibility ($r = .58$, $p < .01$), higher physical health symptoms ($r = .23$, $p < .01$) and higher social relationships ($r = .14$, $p < .05$).

Younger PLWHA had longer relationship length ($r = -.24$, $p < .01$), higher rejection sensitivity ($r = -.22$, $p < .01$), lower psychological flexibility ($r = .13$, $p < .05$), higher physical health symptoms ($r = .15$, $p < .001$) and higher cognitive symptoms ($r = .22$, $p < .01$). Longer length of relationship was associated with lower rejection sensitivity ($r = -.15$, $p < .01$). Higher level of education was associated with higher rejection sensitivity ($r = .36$, $p < .01$), psychological flexibility ($r = .35$, $p < .01$) and cognitive symptoms ($r = .26$, $p < .05$).

Rejection sensitivity was negatively correlated with psychological flexibility ($r = -.69$, $p < .01$), social relationships ($r = -.09$, $p < .05$) and treatment impact ($r = -.13$, $p < .01$), but it was positively correlated with cognitive symptoms ($r = .20$, $p < .01$). Psychological flexibility was negatively correlated with cognitive symptoms ($r = -.22$, $p < .01$) and positively correlated with treatment impact ($r = .17$, $p < .01$). Physical symptoms was negatively correlated with social relationships ($r = -.64$, $p < .01$). Cognitive symptoms was negatively correlated with treatment impact ($r = -.70$, $p < .01$).

Table 2: Hierarchical multiple regression for predictors of quality of life

Predictors	Step 1			Step 2		
	B	β	T	B	β	t
Physical health symptoms						
Rejection sensitivity	.09	.35	7.46***	.08	.31	5.73***
Psychological flexibility				.09	.09	1.63
R^2		.123			.129	
ΔR^2		.120			.124	
F		55.655(1, 278) ***			29.277(2, 277) ***	
ΔF		55.655(1, 278) ***			2.666(1, 277)	
Social relationships						
Rejection sensitivity	-.08	-.32	-6.71***	-.07	-.25	-4.64***
Psychological flexibility				.14	.14	2.58*
R^2		.319			.341	
ΔR^2		.102			.116	
F		45.033(1, 278) ***			26.167(2, 277) ***	
ΔF		45.033(1, 278) ***			6.661(1, 277) *	
Cognitive symptoms						
Rejection sensitivity	.08	.28	5.80***	.06	.20	3.74***
Psychological flexibility				-.16	-.15	-2.83**
R^2		.279			.076	
ΔR^2		.310			.092	
F		33.692(1, 278) ***			21.133(2, 277) ***	
ΔF		33.692(1, 278) ***			7.793(1, 277) **	
Treatment impact						
Rejection sensitivity	.03	.01	.18	1.04	.41	7.43
Psychological flexibility				.42	.83	14.99***
R^2		.000			.530	
ΔR^2		.005			.526	
F		25.034(1, 278)			8.338(2, 277) ***	
ΔF		25.034(1, 278)			8.604(1, 277) ***	

ΔR^2 = Change in R^2 ; ΔF = Change in F

The predictive roles of rejection sensitivity (step 1) and psychological flexibility (step 2) on the four dimension of quality of life were presented in the table 2. Rejection sensitivity significantly and positively predicted perceived physical health symptoms ($\beta = .35$, $p < .001$). The unstandardized regression coefficient (B) showed that for every one unit increase in rejection sensitivity, physical health symptoms increases by .09 units. Rejection sensitivity accounted for additional 12.0% variance in physical health symptoms and the model was significant, $F(1, 278) = 55.655$, $p < .001$. In step 2, psychological flexibility did not significantly predict physical health symptoms ($\beta = .09$, $p = .163$). The model accounted for additional 12.4% variance in physical health symptoms and the model was not significant, $F(1, 277) = 2.666$.

Rejection sensitivity significantly and negatively predicted social relationships ($\beta = -.32$, $p < .001$). The unstandardized regression coefficient (B) showed that for every one unit increase in rejection sensitivity, social relationships decreases by -.08 units. Rejection sensitivity accounted for additional 10.2% variance in social relationships and the model was significant, $F(1, 278) = 45.033$, $p < .001$. In the step 2, psychological flexibility significantly

and positively predicted social relationships ($\beta = .14, p < .05$). The unstandardized regression coefficient (B) showed that for every one unit increase in psychological flexibility, social relationships increases by .14 units. Psychological flexibility accounted for additional 11.6% variance in social relationships and the model was significant, $F(1, 277) = 6.661, p < .05$.

Rejection sensitivity significantly and positively predicted cognitive symptoms ($\beta = .28, p < .001$). The unstandardized regression coefficient (B) showed that for every one unit increase in rejection sensitivity, cognitive symptoms increases by .08 units. Rejection sensitivity accounted for additional 31.0% variance in cognitive symptoms and the model was significant, $F(1, 278) = 33.692, p < .001$. Also in the step 2, psychological flexibility significantly and negatively predicted cognitive symptoms ($\beta = -.15, p < .01$). The unstandardized regression coefficient (B) showed that for every one unit increase in psychological flexibility, cognitive symptoms decreased by -.16 units. Psychological flexibility accounted for additional 9.2% variance in cognitive symptoms and the model was significant, $F(1, 277) = 7.793, p < .01$.

Lastly, rejection sensitivity did not significantly predict treatment impact ($\beta = .01, p = .18$). Rejection sensitivity accounted for additional 0.5% variance in treatment impact and the model was not significant, $F(1, 278) = 25.034$. In the step 2 of the analysis, psychological flexibility significant and positively predicted treatment impact ($\beta = .83, p < .001$). The unstandardized regression coefficient (B) showed that for every one unit increase in psychological flexibility, treatment impact increases by .42 units. Psychological flexibility accounted for additional 52.6% variance in treatment impact and the model was significant, $F(1, 277) = 8.604, p < .001$.

Discussion

The present study investigated the relationship between rejection sensitivity, psychological flexibility and quality of life among PLWHA. Rejection sensitivity significantly predicted higher physical health symptoms, lower social relationships and higher cognitive symptoms among PLWHA. The findings of this study are in agreement with previous findings which linked rejection sensitivity to negative outcomes. For instance, Palomba et al. (2018) found that when women who couldn't have children became more sensitive to rejection, their quality of life went down. In a similar way, Ng and Johnson (2013) found that being more sensitive to rejection was also linked to a lower quality of life in euthymic patients with bipolar 1 disorder. In their study, Usman and Khan (2018) discovered no correlation between rejection sensitivity and quality of life. The value of close, strong connections has typically been considered (and confirmed) in previous studies to be higher than that of distance, social connections (Sutcliffe et al., 2012). Numerous studies have examined the detrimental impacts of social rejection on various demographics, including children, romantic partners, total strangers, and more (Leary, 2010). This pair of findings shows that rejection sensitivity could affect quality of life in different ways. When dealing with the problems that come with HIV/AIDS, people who are sensitive to rejection may always have undesirable experiences and may not get involved in many kinds of relationships (Bayer et al., 2018).

Psychological flexibility significantly predicted higher social relationships, lower cognitive symptoms and higher treatment impact. This findings of this study is similar to that of Meek et al. (2022) who reported a positive link between psychological flexibility and health-related quality of life among people with secondary progressive multiple sclerosis, which is in line with what this study found. Many favorable psychological outcomes, such as reduced stress, anxiety, and depression, have been related to psychological flexibility (Bardeen et al., 2014; Francis et al., 2016; Tyndall et al., 2020). On the other hand, psychological distress is caused by a lack of psychological flexibility, which makes it hard to regulate emotions and behavior (Masuda & Tully, 2012). Cheung and Mak (2016) observed

that psychological flexibility may aid in improving illness management, thus, enhancing the quality of life for patients with chronic respiratory disease in Hong Kong. Psychological flexibility is considered a fundamental aspect of health (Kashdan & Rottenberg, 2010), and health outcomes reportedly have significant effects on the evaluation of one's life (Hand, 2016). which clearly explains the influence of psychological flexibility on quality of life.

Implications of the Study

This study advances to what we know about interventions based on psychological flexibility by looking at how it influences quality of life. Interventions based on psychological flexibility may be more effective at reducing the mental health problems that come with an HIV/AIDS diagnosis, which can lower the quality of life of PLWHA. This intervention is mostly about putting problems into categories and figuring out how to deal with them, as well as helping people do more on their own and for others (Hayes et al., 2004; Masuda et al., 2009). As part of a psychological flexibility-based intervention, people could be assessed regularly, social pressure could be reduced, and acceptance and mindfulness training could be used to help people deal with the lifelong diagnosis.

In hospitals, psycho-educational programs could be used to help PLWHA become less sensitive to rejection and more psychologically flexible. PLWHA's mental health can be taken into account when making preventive programs, and cognitive behavior therapy can be used to make an intervention that will help them deal with their diagnosis.

Limitations and suggestions for further studies

Generalization is poor due to a small number of participants; hence, larger participants should be sampled in further studies. The cross-sectional nature of the study made it unable to establish cause-and-effect relationships, thus, further studies should employ longitudinal design to establish causation. Further research should incorporate views on rejection sensitivity with other psychological aspects on quality of life. Those who are more sensitive to rejection and lack psychological flexibility, for example, may be more likely to experience a reduced quality of life, therefore future research may investigate the moderating or mediating effects of other psychological characteristics on this link. Lastly, data was collected from only one hospital, hence the danger or common method variance. There, further studies should aim to collect its data from across diverse population and location, for a more accurate generalization.

Conclusion

This paper investigated the roles of rejection sensitivity and psychological flexibility on quality of life among PLWHA. Findings of the study showed that rejection sensitivity significantly predicted higher physical health symptoms, lower social relationships and higher cognitive symptoms, while psychological flexibility significantly predicted higher social relationships, lower cognitive symptoms and higher treatment impact. Rejection is a universal human fear, yet for certain people it looms larger than life. Overall, this study has shown that PLWHA, who worry the most about being rejected, report a lower quality of life. Psychological flexibility may be a helpful tool to identify and assist PLWHA most at risk of developing poor quality of life. Necessary measures should be taken to holistically address all health domains of PLWHA to improve their quality of life.

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References

- Bardeen, J., Fergus, T., & Orcutt, H. (2014). Experiential avoidance as a moderator of the relationship between anxiety sensitivity and perceived stress. *Behavioural Therapy*, 44, 459–469.
- Basavaraj, K. H., Navya, M. A., & Rashmi, R. (2010). Quality of life in HIV/AIDS. *Indian Journal of Sexually Transmitted Diseases and AIDS*, 31(2), 75–80.
- Bayer, J. B., O'Donnell, M. B., Cascio, C. N., & Falk, E. B. (2018). Brain sensitivity to exclusion is associated with core network closure. *Scientific Reports*, 8, 1-12.
- Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., & Zettle, R. D. (2011). Preliminary psychometric properties of the acceptance and action questionnaire–II: A revised measure of psychological inflexibility and experiential avoidance. *Behavior Therapy*, 42(4), 676-688.
- Braithwaite, S., & Holt-Lunstad, J. (2017). Romantic relationships and mental health. *Current Opinion in Psychology*, 13, 120–125.
- Burklund, L. J., Eisenberger, N. I., & Lieberman, M. D. (2007). The face of rejection: Rejection sensitivity moderates dorsal anterior cingulate activity to disapproving facial expressions. *Social Neuroscience*, 2(3–4), 238–253.
- Buyukcan-Tetik, A., Campbell, L., Finkenauer, C., Karremans, J. C., & Kappen, G. (2017). Ideal standards, acceptance, and relationship satisfaction: Latitudes of differential effects. *Frontiers in Psychology*, 8, 1691.
- Canu, W. H., & Carlson, C. L. (2007). Rejection sensitivity and social outcomes of young adult men with ADHD. *Journal of Attention Disorders*, 10(3), 261–275.
- Cheung, K. W., & Mak, Y. W. (2016). Association between psychological flexibility and health beliefs in the uptake of influenza vaccination among people with chronic respiratory diseases in Hong Kong. *International Journal of Environmental Research and Public Health*, 13(2), 155. doi: 10.3390/ijerph13020155.
- Clayson, D. J., Wild, D. J., Quarterman, P., Duprat-Lomon, I., Kubin, M., & Coons, S. J. (2006). A comparative review of health related quality of life measures for use in HIV/AIDS clinical trials. *Pharmacoeconomics*, 24, 751–765.
- Davey, A., Chilcot, J., Driscoll, E., & McCrackena, L. M. (2020). Psychological flexibility, self-compassion and daily functioning in chronic pain. *Journal of Contextual Behavioral Science*, 17, 79-85.
- Downey, G., & Feldman, S. I. (1996). Implications of rejection sensitivity for intimate relationships. *Journal of Personality and Social Psychology*, 70, 1327-1343.
- Edeh, S. C. (2023). States with the highest HIV rate in Nigeria 2023: Top 10. *BScholarly*. <https://bscholarly.com/states-with-the-highest-hiv-rate-in-nigeria/#:~:text=1.,case%20of%20HIV%20in%20Nigeria>.

- Foster, L. A. (2021). *Rejection sensitivity, relationship quality, and adjustment in late-adolescent romantic relationships and friendships*. Electronic Theses and Dissertations. 3407.
- Francis, A. W., Dawson, D. L., & Golijani-Moghaddam, N. (2016). The development and validation of the Comprehensive assessment of Acceptance and Commitment Therapy processes (CompACT). *Journal of Contextual and Behavioural Science*, 5, 134–145.
- Fredrickson, B. L. (2004). The broaden-and-build theory of positive emotions. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 359(1449), 1367–1378.
- Gao, S., Assink, M., Cipriani, A., & Lin, K. (2017). Associations between rejection sensitivity and mental health outcomes: A meta-analytic review. *Clinical Psychology Review*, 57, 59–74. <https://doi.org/10.1016/j.cpr.2017.08.007>
- Garner, E. V., Golijani-Moghaddam, N., & Sabin-Farrell, R. (2023). Psychological flexibility as a predictor of professional quality of life in newly qualified psychological therapy practitioners. *Journal of Contextual Behavioral Science*, 28, 139–148. <https://doi.org/10.1016/j.jcbs.2023.02.005>
- Ghiasvand, H., Wayne, K. M., Noroozi, M., Harouni, G. G., Armoon, B., & Bayani, A. (2019). Clinical determinants associated with quality of life for people who live with HIV/AIDS: a Meta-analysis. *BMC Health Services Research*, 19(1), 768.
- Hand C. (2016). Measuring health-related quality of life in adults with chronic conditions in primary care settings: Critical review of concepts and 3 tools. *Canadian Family Physician*, 62(7), e375–e383.
- Hayes, S. C., Luoma, J. B., Bond, F. W., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: Model, processes and outcomes. *Behaviour Research and Therapy*, 44(1), 1–25.
- Hayes, S. C., Luoma, J., Bond, F., Masuda, A., & Lillis, J. (2006). Acceptance and commitment therapy: model, processes, and outcomes. *Behaviour Research and Therapy*, 44, 1–25.
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (2012). *Acceptance and Commitment Therapy: The Process and Practice of Mindful Change*. Guilford Press.
- Hussain, S., Khawar, R., Amin, R., Hamdani, A., & Majeed, A. (2023). Psychological flexibility, cognitive emotion regulation and mental health outcomes among patients with asthma in Pakistan. *Peer Journal*, 11, e15506. DOI 10.7717/peerj.15506
- Ibrahim, E., Brackett, N. L., & Lynne, C. M. (2016). Advances in the management of infertility in men with spinal cord injury. *Asian Journal of Andrology*, 18(3), 382–390
- Joulaei, H., Mousavi, S. G., Foroozanfar, Z., & Rakhshani, T. (2021). Health-related quality of life in people living with HIV in Southwest Iran in 2018: A cross-sectional study. *Biomedical Research International*, 9935175.
- Kashdan, T. B., & Rottenberg, J. (2010). Psychological flexibility as a fundamental aspect of health. *Clinical Psychology Review*, 30(7), 865–878. <https://doi.org/10.1016/j.cpr.2010.03.001>

- Kawamoto, T., Nittono, H., & Ura, M. (2015). Trait rejection sensitivity is associated with vigilance and defensive response rather than detection of social rejection cues. *Frontiers in Psychology, 6*, 1–14. <https://doi.org/10.3389/fpsyg.2015.01516>
- Leary, M. (2010). *Affiliation, acceptance, and belonging: The pursuit of interpersonal connection*. John Wiley & Sons.
- Lewis, J. L. & Sheppard, S. R. J. (2006). Culture and communication: can landscape visualization improve forest management consultation with indigenous communities? *Landscape and Urban Planning, 77*, 291–313.
- Masuda, A., & Tully, E. C. (2012). The role of mindfulness and psychological flexibility in somatization, depression, anxiety, and general psychological distress in a nonclinical college sample. *Journal of Evidence Based Complement and Alternative Medicine, 17*, 66–71.
- McDonald, K. L., Bowker, J. C., Rubin, K. H., Laursen, B., & Duchene, M. S. (2010). Interactions between rejection sensitivity and supportive relationships in the prediction of adolescents' internalizing difficulties. *Journal of Youth Adolescence, 39*, 563–574.
- Meek, C., das Nair, R., Evangelou, N., Middleton, R., Tuite-Dalton, K., & Moghaddam, N. (2022). Psychological flexibility, distress, and quality of life in secondary progressive multiple sclerosis: A cross-sectional study. *Multiple Sclerosis and Related Disorders, 67*, 104154.
- Mohammed, S. A., Yitafr, M. G., Workneh, B. D., & Hailu, A. D. (2021). Health-related quality of life and associated factors among people living with human immunodeficiency virus on highly active antiretroviral therapy in North East Ethiopia: Cross-sectional study. *PloS one, 16*(3), e0247777.
- Ng, T. H., & Johnson, S. L. (2013). Rejection sensitivity is associated with quality of life, psychosocial outcome, and the course of depression in euthymic patients with bipolar I disorder. *Cognitive Therapy and Research, 37*(6), 1169–1178.
- Onu, D. U., Ugwu, D., & Orjiakor, T. C. (2019). Events centrality moderates the relationship between posttraumatic growth and health-related quality of life among people living with HIV. *Journal of the Association of Nurses in AIDS Care, 30*(6), 668–674
- Pachankis, J. E., Goldfried, M. R., & Ramrattan, M. E. (2008). Extension of the rejection sensitivity construct to the interpersonal functioning of gay men. *Journal of Consulting and Clinical Psychology, 76*(2), 306–317.
- Ramaci, T., Bellini, D., Presti, G., & Santisi, G. (2019). Psychological flexibility and mindfulness as predictors of individual outcomes in hospital health workers. *Frontiers in Psychology, 10*, 1664–1078.
- Ramaci, T., Bellini, D., Presti, G., & Santisi, G. (2019). Psychological flexibility and mindfulness as predictors of individual outcomes in hospital health workers. *Frontiers in Psychology, 10*, 1302.
- Rippon, I., Quinn, C., Martyr, A., Morris, R., Nelis, S. M., Jones, I. R., Victor, C. R., & Clare, L. (2020). The impact of relationship quality on life satisfaction and well-being in dementia caregiving dyads: findings from the IDEAL study. *Aging & Mental Health, 24*(9), 1411–1420

- Romero-Canyas, R., Downey, G., Reddy, K. S., Rodriguez, S., Cavanaugh, T. J., & Pelayo, R. (2010). Paying to belong: when does rejection trigger ingratiation? *Journal of Personality and Social Psychology*, 99, 802–823.
- Smart, R. L., & Leary, M. R. (2009). Reactions to discrimination, stigmatization, ostracism, and other forms of interpersonal rejection: A multimotive model. *Psychological Review*, 116(2), 365–383.
- Sutcliffe, A., Dunbar, R., Binder, J., & Arrow, H. (2012). Relationships and the social brain: Integrating psychological and evolutionary perspectives. *British Journal of Psychology*, 103, 149–168.
- Tommy, H., & Sheri, L. J. (2013). Rejection sensitivity is associated with quality of life, psychosocial outcome, and the course of depression in euthymic patients with bipolar I disorder. *Cognitive Therapy and Research*, 37, 1169–1178.
- Tyndall, I., Waldeck, D., Pancani, L., Whelan, R., Roche, B., & Pereira, A. (2020). Profiles of psychological flexibility: a latent class analysis of the acceptance and commitment therapy model. *Behavioural Modification*, 44, 365–393.
- UNAIDS (2019a). *Global HIV & AIDS statistics — 2020 fact sheet*. Retrieved from: <https://www.unaids.org/en/resources/fact-sheet>. Accessed 14 July 2020.
- UNAIDS (2019b). *New survey results indicate that Nigeria has an HIV prevalence of 1.4%*. Retrieved from: https://www.unaids.org/en/resources/presscentre/pressreleaseandstatementarchive/2019/march/20190314_nigeria#:~:text=New%20survey%20results%20indicate%20that%20Nigeria%20has%20an%20HIV%20prevalence%20of%201.4%25,-14%20March%202019&text=ABUJA%20FGENEVA%2C%2014%20March%202019,a%20dults%20aged%2015%E2%80%9334%20years.
- Usman, R., & Khan, M. A. (2018). Quality of life, self-esteem, coping, rejection sensitivity and depression among infertile men and women. *Pakistan Journal of Professional Psychology: Research and Practice*, 9(2), 15–28.
- Usman, R., & Khan, M. A. (2018). Quality of life, self-esteem, coping, rejection sensitivity and depression among infertile men and women. *Pakistan Journal of Professional Psychology: Research and Practice*, 9(2), 15–28.
- Vanhalst, J., & Leary, M. (2014). Sociotropic differentiation: Differential anticipatory reactions to rejection by close versus distal others predict well-being. *Personality and Individual Differences*, 68, 176–182. <https://doi.org/10.1016/j.paid.2014.04.004>
- Wang, J., Cheng, X., Xu, K., Xu, H., Wang, H., & Feng, Z. (2020). Rejection sensitivity mediates the relationship between social-interpersonal stressors and depressive symptoms in military context. *Frontiers in psychiatry*, 11, 447.
- Wersebe, H., Lieb, R., Meyer, A. H., Hofer, P., & Gloster, A. T. (2018). The link between stress, well-being, and psychological flexibility during an Acceptance and Commitment Therapy self-help intervention. *International Journal of Clinical and Health Psychology*, 18(1), 60–68.
- Whisman, M. A., & Baucom, D. H. (2012). Intimate relationships and psychopathology. *Clinical Child and Family Psychology Review*, 15(1), 4–13.

- Whisman, M. A., Salinger, J. M., & Sbarra, D. A. (2022). Relationship dissolution and psychopathology. *Current Opinion in Psychology*, 43, 199–204.
- Williams, K. D. (1997). *Social ostracism*. In R. Kowalsk (Ed.), *Aversive interpersonal behaviors* (pp. 133-170). Plenum.
- Williams, K. D. (2001). *Ostracism: The power of silence*. New York: Guilford.
- Zangirolami-Raimundo, J., Echeimberg, J. O., & Leone, C. (2018). Research methodology topics: Cross-sectional studies. *Journal of Human Growth and Development*, 28(3), 356-360. DOI: <http://dx.doi.org/10.7322/jhgd.152198>