

Para-social Relationship and Social Media Dependency among Chinese K-Pop Fans

Exploring the Mediating and Moderating Mechanisms

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Transnational K-Pop Culture: Practice of PSRs Based on Social Media

- The global popularity of K-pop culture relies heavily on establishing “para-social relationships” (Horton & Wohl, 1956) on social media to foster enduring fan loyalty and participatory culture (Elfving-Hwang, 2018; Gracella et al., 2022), including Instagram posts and live, music and performance video on YouTube, TikTok challenge, and idol-fan chat apps like Vlive, Bubble and Weverse.

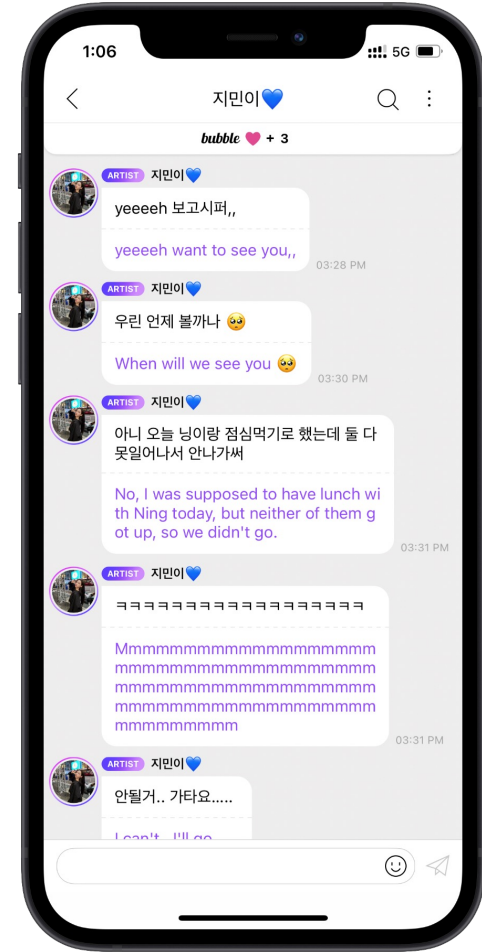


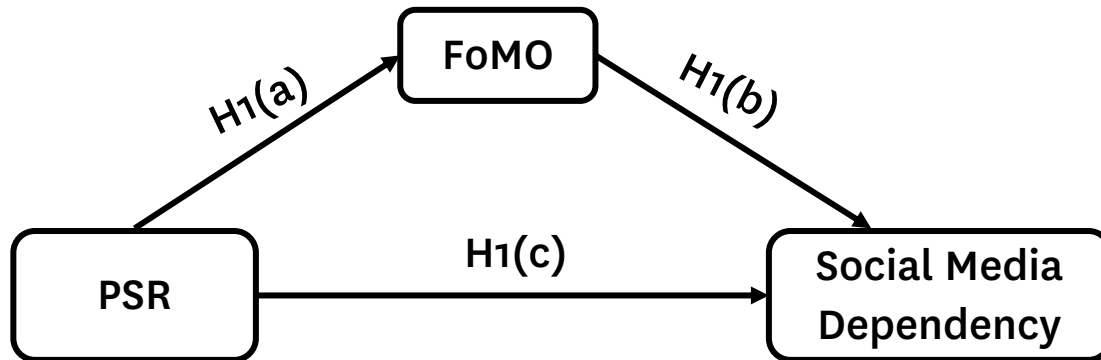
Figure. Screenshot of fan-idol chat app



PSR and Social Media Dependency

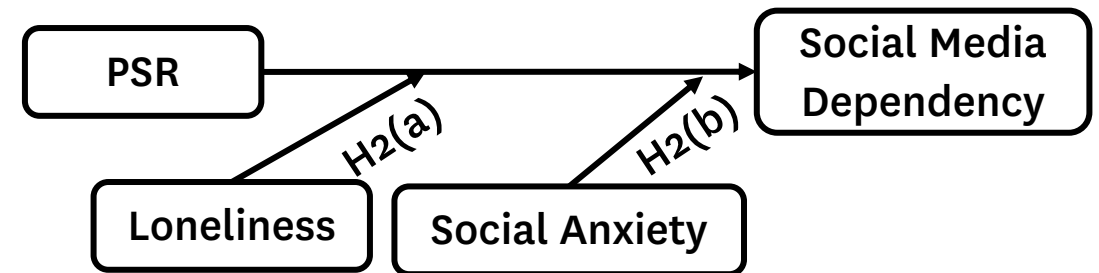
Mediational Role of FoMO

- Based on SDT, the fear to miss idol-related information prompt fans to use social media as much as possible to obtain the latest information about idols (Gracella et al., 2022), which may result in addiction to social networks (Zhang et al., 2021).



Moderating Role of Loneliness and Social Anxiety

- Para-social compensation hypothesis believes individuals who feel lonely, socially isolated, or have social skills deficits (such as social anxiety) tend to seek more compensation from PSRs to satisfy their belongingness needs (de Bérail et al., 2019).



Research Design

Data Collection

- **Design:** Cross-sectional design
- **Method:** Survey, Dec 26, 2022, to Jan 1, 2023
- **Convenience sampling:** Chinese K-pop fans from Weibo, Douban and WeChat groups ($N = 590$).

Analytical Strategy

- **SPSS:** 1) Exploratory factor analysis; 2) regression analysis; 3) Mediation analysis with Process macro (Hayes, 2022)
- **R:** Confirmatory factor analysis

Measures

- **Demographics:** age (11-32, $M = 18.33$, $SD = 3.41$), gender (Male = 4.2%, Female = 95.8%), education, intimate relationship (no = 92.4%)
- **PSR:** Guttman scale (Ge, 2017)
- **SMD:** Social Media Dependency Scale (Wu, 2014)
- **FoMO:** FoMO scale in Chinese (Li et al., 2019; Song et al., 2017)
- **Social Anxiety:** Interaction Anxiousness Scale (Leary and Kowalski, 1993; Wang et al., 1999)
- **Loneliness:** ULS-8 Loneliness Scale (Hays & DiMatteo, 1987; Zhou et al., 2012)



Results

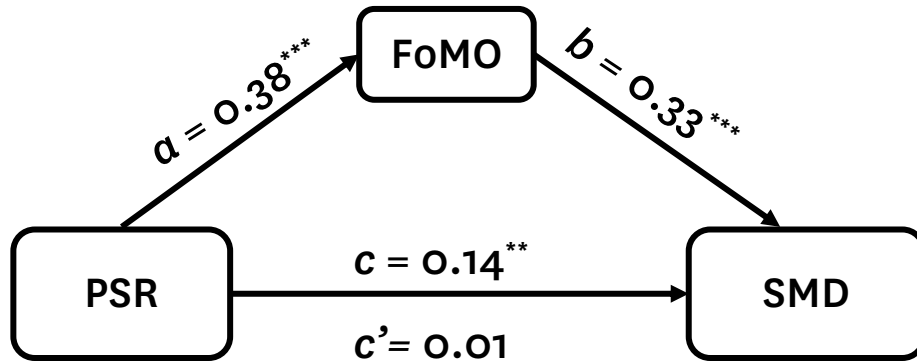
Table 1. Means, standard deviations and correlations for all study variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5
PSR	6.02	1.94	1	0.44 ^{***}	0.05	-0.01	0.15 ^{***}
FoMO	2.80	0.86	0.38 ^{***}	1	0.15 ^{***}	0.10 [*]	0.33 ^{***}
Lonliness	2.36	0.61	0.01	0.11 ^{**}	1	0.36 ^{***}	0.23 ^{***}
Social Anxiety	3.59	0.75	-0.05	0.06	0.34 ^{***}	1	0.32 ^{***}
SMD	3.76	0.68	0.14 ^{***}	0.32 ^{***}	0.23 ^{***}	0.32 ^{***}	1

zero-order
correlations

After controlling demographic covariate

Results



Mediation Effect of FoMO (H1 ✓) : FoMO plays a fully mediating role in the influence of PSR on social media dependency .

Dependent Variables	Independent Variables	R	R ²	F	β	95% LL CI	95% UL CI	t
SMD	Gender	0.18	0.03	3.88**	-0.08	-0.16	0.00	-1.90
	Age				-0.10	-0.26	0.06	-1.28
	Education				0.08	-0.08	0.24	0.99
	IR				-0.04	-0.12	0.05	-0.88
	PSR				0.14	0.06	0.22	3.31**
FoMO	Gender	0.48	0.23	35.19***	-0.03	-0.10	0.04	-0.82
	Age				-0.25	-0.39	-0.10	-3.38***
	Education				0.04	-0.10	0.18	0.54
	IR				-0.01	-0.08	0.06	-0.28
	PSR				0.38	0.30	0.45	10.00***
SMD	Gender	0.34	0.12	12.97***	-0.07	-0.14	0.01	-1.73
	Age				-0.02	-0.18	0.13	-0.29
	Education				0.07	-0.09	0.22	0.87
	IR				-0.03	-0.11	0.05	-0.83
	PSR				0.01	-0.07	0.10	0.32
	FoMO				0.33	0.25	0.42	7.52***

Table 2. Regression Analysis of the Mediating Effect of FoMO (N=590)

Results

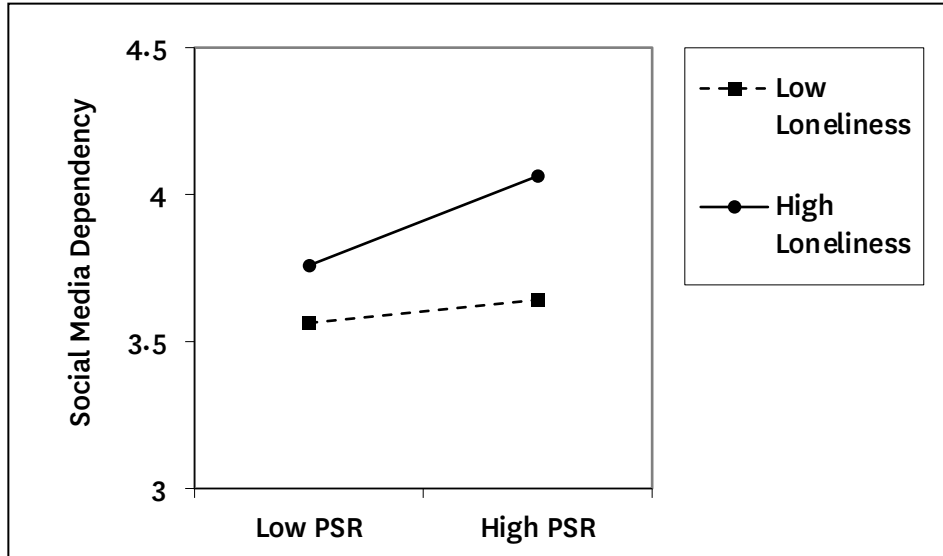


Figure. Interaction Plot of PSRs × Loneliness

Moderator Effect of Loneliness

(H2a partially ✓) : PSR on SMD is only significant to the high loneliness group.

		Step 1			Step 2			Step 3		
		<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β	<i>B</i>	<i>SE</i>	β
L1	Gender	-0.28	0.14	-0.08*	-0.24	0.13	-0.07	-0.26	0.13	-0.08
	Age	-0.03	0.02	-0.13	-0.01	0.02	-0.05	-0.02	0.02	-0.09
	Education	0.06	0.06	0.07	0.04	0.06	0.05	0.06	0.06	0.08
	IR ¹	-0.09	0.11	-0.03	-0.17	0.11	-0.07	-0.16	0.11	-0.06
L2	PSR				0.05	0.01	0.14***	0.05	0.01	0.14***
	Loneliness				0.26	0.04	0.23***	0.25	0.04	0.23***
L3	PSR × Loneliness							0.05	0.02	0.09*
	R ²		0.014			0.084			0.092	
	ΔR^2		0.014			0.070			0.008	
	F		2.070			8.956***			8.472***	

Table 3. Testing Moderator Effects of Loneliness Using Multiple Regression (*N*=590)

Results

Moderator Effect of Social Anxiety (H2b ×) : Social anxiety did not significantly moderate effect of PSRs on SMD.

		Step 1			Step 2			Step 3		
		B	SE	β	B	SE	β	B	SE	β
L1	Gender	-0.28	0.14	-0.08*	-0.18	0.13	-0.05	-0.20	0.13	-0.06
	Age	-0.03	0.02	-0.14	-0.01	0.02	-0.07	-0.02	0.02	-0.09
	Education	0.06	0.06	0.07	0.06	0.06	0.07	0.07	0.06	0.09
	IR	-0.09	0.11	-0.04	-0.22	0.10	-0.09*	-0.23	0.10	-0.09*
L2	PSR				0.06	0.01	0.16***	0.06	0.01	0.16***
	Social Anxiety				0.30	0.04	0.33***	0.30	0.04	0.33***
L3	PSR × Social Anxiety							0.03	0.02	0.06
	R ²		0.014			0.138			0.142	
	ΔR ²		0.014			0.124			0.004	
	F		2.070			15.568***			13.743***	

Table 4. Testing Moderator Effects of Loneliness Using Multiple Regression (N=590)



Conclusions

- The findings affirm that para-social relationships (PSRs) with idols are a significant predictor of Chinese K-pop fans' social media dependency, while FoMO on idol-related information is a key driver behind the excessive use of social media.
- This finding supports the para-social compensation hypothesis, as individuals who experience higher levels of loneliness are more likely to develop a stronger dependency on social media as they seek compensation through PSRs.
- Contrary to expectations, social anxiety did not significantly moderate the relationship between PSRs and social media dependency, suggesting that loneliness may be a more critical factor for fan-idol relationships.



Limitations

- Cross-sectional design limits causal inference between PSRs and social media dependency. Longitudinal studies using methods like cross-lagged models may be more accurate (Fang et al., 2021; Yuan et al., 2021).
- The duration of social media usage are considered positively related to one's level of PSRs (Schiappa et al., 2007), it was not included in this study as a covariate in the analysis due to high rate of errors in answers to questionnaires.
- How Chinese K-pop fans interpret their own PSR may affect their self-evaluation of PSR. It may be helpful to conduct a pilot study with qualitative approach.

