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The links between fear of missing out, status-seeking, intrasexual competition, sociosexuality, and social support

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ABSTRACT

With the surge of social media use in contemporary society, scholars have focused on how feelings of apprehension that one is missing out on important social activities (i.e., fear of missing out [FoMO]) might influence mental health. However, worry surrounding social inclusion is not a contemporary problem, and successfully participating in social events is an important aspect of human evolutionary history. To our knowledge, researchers have yet to frame the phenomenon of FoMO in an evolutionary perspective. In a sample of $N = 327$ heterosexual American adults ($M_{\text{age}} = 36.94$, $SD = 10.24$), we found that FoMO correlated positively with status-striving and intrasexual competitiveness, as well as unrestricted sociosexual behavior and desires. Among females, but not males, FoMO was negatively linked to received social support. Results highlight how adults higher in FoMO express a greater inclination to compete for evolutionarily salient social and reproductive resources and devote more effort toward short-term mating. FoMO may also alert females to the absence of desired social support. Findings provide insight into the utility of an evolutionary approach to studying individual differences in the experience of FoMO, which can aid in gathering a more comprehensive understanding of the construct.

Introduction

Humans have been described as an “ultra-social” species who display a penchant for cooperation and social affiliation (Richerson and Boyd, 1998; Tomasello, 2014). Therefore, being excluded from and failing to participate in social events would likely have negatively impacted the survival and reproductive success of ancestral hominins. In contemporary society, over the past decade researchers have studied individual differences in feelings of apprehension that one is missing out on important social activities, labelled *fear of missing out* (FoMO; Przybylski et al., 2013). Empirical work from sociocultural and clinical viewpoints indicates that those higher in FoMO are socially competitive (Baker et al., 2016) and often resort to aggressive tactics to vie for valued social resources (Abell et al., 2019). To our knowledge, none have framed the phenomenon of FoMO in an evolutionary perspective, and it is currently uncertain whether those higher in FoMO also fiercely compete for mating opportunities alongside resources that facilitate survival and reproductive success (e.g., status). To attend to this gap, in the current study we examined the cross-sectional associations between FoMO with different social and reproductive strategies in a community sample of American adults.

Human sociality, anxiety, and social exclusion

Evidence suggests that humans evolved in the context of small, nomadic hunter-gatherer communities where forming and maintaining social bonds were essential for survival and reproduction (Richerson and Boyd, 1998; Tomasello, 2014). For this reason, humans are argued to express a fundamental need to belong (i.e., the *belongingness hypothesis*), which can be seen in our desire to affiliate with kin, friends, and relationship partners, as well as participate in social events (Baumeister and Leary, 1995). The centrality of socialization among humans can also be observed in the experience of anxiety that arises when social bonds are threatened or harmed, in addition to when we are purposely left out of important social activities (i.e., social exclusion; Baumeister and Tice, 1990; Buss, 1990). This idea is captured in the statement by Baumeister and Leary (1995) that “Anxiety and general distress seem to be a natural consequence of being separate from important others” (p. 506). The emotion of anxiety, therefore, may help to overcome several adaptive problems linked to group living that impact survival and reproductive success (Buss, 1990).

Cooperation in the context of group living can enhance survival in many ways, such as through offering protection against dangerous

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predators and increasing the availability of resources required to survive (e.g., food; Baumeister and Tice, 1990). Anxiety may adaptively alert people to acts that increase the likelihood of social exclusion and prompt them to reassess their behavior to avoid future social separation. Furthermore, social exclusion can lead to the loss of reproductive resources, such as difficulties in finding and retaining mates and having a lower capacity to support genetic relatives in producing and raising offspring (i.e., lower inclusive fitness; Buss, 1990). Therefore, being unable to attend to, or being excluded from participating in, important social activities can carry important survival and reproductive costs, and the experience of anxiety may adaptively function to help reduce the likelihood of social isolation (Baumeister and Tice, 1990; Buss, 1990). One construct studied in contemporary societies that is conceptually similar to social anxiety has been labelled FoMO, which denotes the distress associated with missing out on salient social information and activities (Pryzbylski et al., 2013).

Fear of missing out: not a modern problem

Most researchers treat FoMO as a stable dispositional trait, which we do in the current research. But some have conceptualized FoMO as a state-level variable in relation to online activities, which has often been the context within which the variable has been studied (Wegmann et al., 2017). FoMO is thought to arise from unmet social needs and has been linked to a range of negative mental health problems, including negative affect, lower life satisfaction (Pryzbylski et al., 2013), as well as social anxiety, depression, and rumination (e.g., Dempsey et al., 2019). Furthermore, FoMO has been positively associated with neuroticism (i.e., emotional instability), which may help to generally account for the links between FoMO with negative affectivity (Rozgonjuk et al., 2021).

In previous research and theorizing, scholars have often approached FoMO from sociocultural and clinical perspectives. However, it is unlikely that feeling distressed about missing out on opportunities to socialize with peers, family, and potential relationship partners is a novel cultural phenomenon that has only arisen in the past decade with the advent of social media. Furthermore, social media has been argued to create an evolutionary mismatch, whereby psychological adaptations for social belonging and monitoring are exploited, leading to harmful mental health outcomes (e.g., depression; Blease, 2015; Lim and Yong, 2019). Previous research demonstrates how FoMO is a strong predictor of problematic digital technology use (Elhai et al., 2020; Rozgonjuk et al., 2020), and an evolutionary mismatch perspective can help to shed insight into why this is the case.

The evolutionary importance of social inclusion and group membership can be seen in young children's inclination to become members of and readily identify with social groups (Wen et al., 2016), cross-culturally diverse forms of body ornamentation that signal group identity (e.g., tattoos; Carmen et al., 2012), religious practices (Sosis, 2004), and coming-of-age rituals (Gorelik, 2016). Challenges associated with the complexities of group living, such as avoiding social exclusion by participating in culturally relevant social activities, have likely been recurrent adaptive problems over human evolutionary history (Baumeister and Tice, 1990; Buss, 1990; Gilbert, 2001). Like anxiety, FoMO may be a psychological adaptation that facilitates social inclusion to help navigate problems associated with group living. If so, then the expression of FoMO should orient individuals toward evolutionarily relevant social resources, such as social status (Buss et al., 2020; Henrich and Gil-White, 2001), and prompt compensatory behavior to accrue those resources.

FoMO and competition for social and mating resources

Social status (i.e., an individual's ranking or importance within a social hierarchy), is a limited valuable resource that people must compete for to obtain. Across development, status is a key aspect of social

competition in school, occupational contexts, group sports, and friendships (Redhead et al., 2021). Status is also central to mating competition where it can be used as a resource to access preferred sexual and romantic partners, as well as reduce the competitive success of rivals (Gilbert, 2001; Vaillancourt & Krems, 2018). Thus, status-seeking may qualify as a fundamental human motive that influences survival (e.g., accessing land, wealth, and material resources) and reproductive outcomes (e.g., acquiring and retaining mates) that has been observed across economically developed and hunter-horticulturalist societies across time (Anderson et al., 2015). Despite social status being rated as more important for female intersexual selection (i.e., the choosing of preferred mates) and the criteria that dictate status being sex differentiated (Buss et al., 2020), there is good evolutionary rationale regarding why females and males may pursue social status to a similar extent. For instance, among females, status can facilitate competition for economic resources needed to raise offspring, as well as procure friends, allies, and co-parents that meaningfully influence survival and reproductive outcomes (Blake, 2022; Bradshaw and DelPriore, 2022).

Because occupying a lower social rank can significantly hinder one's appeal, ability to make friends, forge alliances, and access economic and material resources, those experiencing heightened social anxiety may be particularly attuned to social competition dynamics (Gilbert, 2001). Similarly, those higher in FoMO are more likely to be frequent social media users (see Fioravanti et al., 2021 for meta-analysis), which signals a proclivity toward social competition (Baker et al., 2016). This is because social media is often used to vie for social capital (Valenzuela et al., 2009), for the purpose of impression and reputation management (Benthaus et al., 2016), and to self-promote positive qualities (Apostolou et al., 2021). Like individuals reporting greater depression and anxiety, those higher in FoMO appear to feel more pressure to competitively jockey for their position in the social world to avoid feelings of shame and inferiority (i.e., insecure striving; Abell et al., 2019; Baker et al., 2016; Gilbert et al., 2009). Therefore, it is sensible to predict that those expressing heightened levels of FoMO might also express a general inclination to strive for social status (Hypothesis 1a).

FoMO and intrasexual competitiveness

Social competition is intertwined with sexual selection dynamics and involved in being preferentially chosen as a relationship partner (i.e., intersexual selection), as well as effectively competing against rivals for access to and the retention of desired mates (i.e., intrasexual competition; West-Eberhard, 1983). Two key strategies that people use in their rivalry for mates and reproductive resources include self-promotion (i.e., accentuating and displaying one's positive qualities) and competitor derogation (i.e., taking action to reduce the mate value of rivals; Buunk and Fisher, 2009). But people vary significantly in the extent to which they express favorable attitudes toward self-promotion and competitor derogation (i.e., *intrasexual competitiveness*).

Previous research shows how those higher in trait-level intrasexual competitiveness more often engage in risky, aggressive, and violent mate competition strategies against same-sex others who are their primary rivals in a heterosexual context (Arnocky et al., 2019; Buunk and Massar, 2021; Davis et al., 2022). Intrasexual competitiveness is also associated with "dark" personality traits, such as psychopathy (Lyons et al., 2019). Likewise, those higher in FoMO are more socially competitive and strive to avoid inferiority, which contributes to interpersonal manipulation and the perpetration of indirect cyberaggression (e.g., ignoring friends when they send messages on Facebook chat; Abell et al., 2019). Moreover, like FoMO, intrasexual competitiveness embodies frustration over and a desire to avoid inferiority (Albert et al., 2022), and those higher in FoMO report greater levels of malevolent personality traits (Servidio et al., 2021). Therefore, people reporting heightened feelings of FoMO might be more motivated to compete with same-sex others to avoid missing out on important mating opportunities and resources that facilitate reproductive success (e.g., status), which

should be reflected in a stronger expression of intrasexual competitiveness (Hypothesis 1b).

FoMO and a short-term mating orientation

Expressing more approval of, and investing more energy in, self-promotion and competitor derogation is positively associated with a short-term mating strategy (Davis et al., 2022; Semenyina et al., 2019). Evolutionary scholars often conceptualize a short-term mating orientation in line with *unrestricted sociosexuality*, which encompasses behavior, attitudes, and desires to pursue short-term casual sexual relationships with limited emotional involvement with a variety of people (Penke and Asendorpf, 2008). Previous research indicates that a short-term mating orientation tends to be associated with risky, exploitive, and aggressive mate competition tactics. For example, short-term mating often involves opportunistically pursuing sexual relationships (Jonason et al., 2011), which entails more sexual risk-taking (e.g., a higher likelihood of acquiring sexually transmitted illnesses; Seal and Agostinelli, 1994). Unrestricted sociosexuality, particularly unrestricted sociosexual desires, also predicts the perpetration of indirect aggression (e.g., social exclusion) toward same-sex peers, which is explained by heightened levels of intrasexual competitiveness (Davis et al., 2022). Furthermore, unrestricted sociosexuality has been associated with sending naked images via the mobile application Snapchat (Moran et al., 2018).

To avoid missing out on potential mating opportunities, it is possible that adults higher in FoMO might express more short-term mating effort. There is, however, limited research on the relations between FoMO with sexual attitudes and behavior. In popular news articles, the phenomenon of “sexual FoMO” has been discussed, describing the apprehension people feel when they believe that they are missing out on the “great sex” that other people are ostensibly having (Zebbroff, 2020). A survey of over 2000 adults indicated that about 30% of men and women had experienced so-called sexual FoMO “most times” (Art of Connection, 2020). Results were similar for women and men regarding what people feared they were missing out on in their sexual lives. Like those expressing a short-term mating orientation, individuals higher in FoMO are more prone to taking risks and engaging in self-promotion behavior of a sexual nature. For example, FoMO has been associated with consuming more alcohol and negative alcohol-related consequences among college students (Riordan et al., 2015). Similarly, among adolescents aged 12–18 years old, FoMO was positively associated with several online risk-taking activities (e.g., “I often share my location on social media”; Popovac and Hadlington, 2020). Popovac and Hadlington (2020) further showed that adolescents higher in FoMO were more likely to send nude images and videos to strangers and people they knew, suggesting more sexual risk-taking and sexually liberal behavior in line with an unrestricted sociosexual orientation and short-term mating tendencies (Hypothesis 1c).

The costs of missing out on potential mating opportunities, however, have likely not been the same for females and males over evolutionary time. Females have higher obligatory parental investment (e.g., gestation), are more important for the survival of offspring, have fewer gametes (i.e., ova), and possess an explicit age-related cessation in reproductive potential (i.e., menopause; discussed in Davis et al., 2022). Therefore, females incur greater costs and benefit less from pursuing short-term mating strategies (Buss and Schmitt, 1993). This sex difference is reflected in males having a more unrestricted sociosexual orientation, particularly sociosexual desires, across societies (Schmitt, 2005). Therefore, despite researchers often reporting no mean level sex or gender differences in FoMO (e.g., Brown and Kuss, 2020; Rozgonjunk et al., 2021), it is possible that the links between FoMO and unrestricted sociosexuality are sex-differentiated, and stronger among males in comparison to females (Hypothesis 2a). Sex differences in FoMO may also be apparent regarding the degree of emotional and practical support that people receive from their social relationships.

FoMO and social support

The absence of social support can contribute to heightened feelings of anxiety (Peter et al., 2016), and previous research indicates that those higher in FoMO feel less socially connected (Brown and Kuss, 2020; Dou et al., 2021). Many scholars have emphasized how derived social support, friendship dynamics, and the experience of social exclusion are gender and sex differentiated. For example, compared to males, females form stronger and tighter friendships with fewer individuals (Lagerspetz et al., 1988; Turner, 1994), express more jealousy over potentially losing a best friend (Krems et al., 2022), and place more value on the capacity of friends to provide emotional support and useful social information (Williams et al., 2022). Furthermore, females are more likely to socially exclude others, attend to signals of social exclusion, and express heightened physiological reactivity in response to being excluded (Benenson et al., 2013, 2011). Collectively, this research suggests that those higher in FoMO likely feel as though they receive less social support (Hypothesis 1d), and that because females derive more social support and place more importance on their social relationships, that this negative relation may be stronger in females in comparison to males (Hypothesis 2b).

Present study

The goal of the current study was to assess the cross-sectional relations between FoMO with status-seeking, intrasexual competitiveness, short-term mating effort (i.e., unrestricted sociosexuality), and degree of social support in a community sample of American adults from an evolutionary perspective. Building on the work of others, which suggests that those higher in FoMO compete more for social resources (e.g., Abell et al., 2019), we tested the hypothesis that FoMO would correlate positively with striving for status (Hypothesis 1a). Given that those higher in FoMO appear to vie more intensely for social resources to avoid feeling inferior, we advanced the novel hypothesis that FoMO would correlate positively with intrasexual competitiveness (Hypothesis 1b). Adults expressing greater FoMO also display qualities that map onto short-term mating proclivities (i.e., unrestricted sociosexuality), such as greater sexual risk-taking (Seal and Agostinelli, 1994), interpersonal antagonism (Davis et al., 2022; Lyons et al., 2019), and promiscuity (Moran et al., 2018). Therefore, we expected that FoMO would correlate positively with unrestricted sociosexual behavior, attitudes, and desires (Hypothesis 1c). Missing out on mating opportunities, however, has likely been more costly for males over human evolutionary history (Buss, 1995). Therefore, we anticipated that the positive relation between FoMO and unrestricted sociosexuality would be stronger for males in comparison to females (Hypothesis 2a). Some previous work further indicates that FoMO is negatively linked to degree of received social support (Dou et al., 2021), which we set out to replicate (Hypothesis 1d). But females derive more social support and place greater importance on their social relationships than males, suggesting that the negative link between FoMO and received social support may be stronger for females in comparison to males (Hypothesis 2b).

Method

Participants

The sample consisted of $N = 327$ American heterosexual participants recruited from Amazon’s Mechanical Turk (MTurk), an online crowdsourcing platform. The participants ranged from 19 to 60 years of age ($M_{\text{age}} = 36.94$, $SD = 10.24$), and when asked to report their assigned sex at birth, 53.5% ($n = 175$) indicated that they were male. Regarding ethnic identity, 80.7% ($n = 264$) of the sample identified as White. Median education level corresponded to “Bachelor’s degree” (40.7%, $n = 133$), and median family income level was “\$50,001 to \$75,000/year” (23.2%,

$n = 76$). Of the sample, 70.9% ($n = 232$) reported that they were currently in a long-term committed relationship. G*Power (version 3.1.9.4; Faul et al., 2007), indicated that to detect a moderate correlation (two-tailed) of $r = 0.20$ (Gignac and Szodorai, 2016), a sample size of 193 would be needed to achieve 80% statistical power. For moderation analyses with a single interaction term and no covariates, a sample size of 55 would be needed to detect a medium effect size ($f^2 = 0.15$) and maintain 80% power.

Materials

Fear of missing out

The 10-item Fear of Missing Out Scale (FoMOs; Przybylski et al., 2013) was used to measure individual differences in feelings of apprehension that one is missing out on important social information, events, and experiences (i.e., FoMO). Example items included: “I fear others have more rewarding experiences than me” and “It bothers me when I miss an opportunity to meet up with friends.” Participants responded to items using a 5-point Likert-type scale ranging from 1 (*Not at all true of me*) to 5 (*Extremely true of me*). Items were averaged, with higher scores describing greater feelings of FoMO. In past research, the FoMOs (Przybylski et al., 2013) has shown evidence of construct validity, correlating positively with other scales designed to measure the same construct (Buff and Burr, 2018), as well as with theoretically related variables (e.g., negative affectivity; Elhai et al., 2020). In the current study, McDonald’s omega and Cronbach’s alpha values for the FoMOs indicated that the scale was internally consistent ($\omega = .93$ and $\alpha = .93$).

Status-Seeking

To assess inter-individual variability in the proclivity to strive for status, the 3-item Status Seeking Index (SSI; Paskov et al., 2017) was employed. Items included: (1) “It is important to me to show my abilities. I want people to admire what I do,” (2) “Being very successful is important to me. I hope people recognize my achievements,” and (3) “It is important to me to get respect from others. I want people to do what I say.” Items were measured with a 6-point scale (1 = *Not like me at all* to 6 = *Very much like me*). The SSI has shown evidence of construct validity in the original study in which it was published, correlating negatively with income equality (Paskov et al., 2017). In the current study, the SSI showed evidence of internal reliability ($\omega = .86$ and $\alpha = .86$).

Intrasexual competitiveness

To assess individual differences in attitudes toward intrasexual competition, the 12-item Intrasexual Competition Scale (ICS; Buunk and Fisher, 2009) was employed. Sample items included “I can’t stand it when I meet another woman/man who is more attractive than I am” and “I want to be just a little better than other women/men.” Participants responded to items using a 7-point response scale ranging from 1 (*Not at all applicable*) to 7 (*Very much applicable*). Items were averaged, with higher scores describing greater intrasexual competitiveness. In previous work, the ICS (Buunk and Fisher, 2009) has shown evidence of convergent validity, correlating positively with the Intrasexual Rivalry Scale (IRS; Karimi-Malekabadi et al., 2019). The ICS has also correlated with theoretically related constructs, such as the perpetration of same-sex aggression (Davis et al., 2022). In the current study, the ICS demonstrated evidence of internal reliability ($\omega = .93$, $\alpha = .94$).

Sociosexual orientation

To measure individual differences in a short-term mating orientation (i.e., unrestricted sociosexuality), the revised 9-item Sociosexual Orientation Inventory (SOI-R; Penke and Asendorpf, 2008) was used. The SOI-R encompasses three related factors: behavior (e.g., “With how many different partners have you had sexual intercourse without having an interest in a long-term committed relationship with this person?”), assessed with a 9-point scale (1 = 0 to 9 = 20 or more); attitude (e.g., “I can imagine myself

being comfortable and enjoying ‘casual’ sex with different partners”), measured using a 9-point scale (1 = *Strongly disagree* to 9 = *Strongly agree*); and desire (e.g., “In everyday life, how often do you have spontaneous fantasies about having sex with someone you have just met?”), assessed with a 9-point scale (1 = *Never* to 9 = *At least once a day*). Items were summed for each respective subscale, with higher scores describing more unrestricted sociosexuality. In the research within which it was first published, the SOI-R (Penke and Asendorpf, 2008) showed evidence of construct validity: its three-factor structure was supported, and each factor correlated positively with short-term mating interests and sex drive. In the current study, each subscale demonstrated evidence of internal reliability (Behavior: $\omega = .84$, $\alpha = .81$; Attitude: $\omega = .75$, $\alpha = .72$; and Desire: $\omega = .91$, $\alpha = .91$).

Received social support

The 10-item Significant Other Scale (SOS; Power et al., 1988) was used to measure the degree of social support that people were receiving. Participants were able to identify six different sources of social support from 11 potential sources (e.g., spouse, parents, friends, and bosses), and then asked to what extent they could receive different kinds of emotional (e.g., “Trust, talk to frankly, and share feelings with”) and practical support (e.g., “Get financial and practical help”) from them. Participants responded to items using a 7-point scale (1 = *Never* to 7 = *Always*). Items across different sources (e.g., parents) and kinds of social support (e.g., emotional) were average, with higher total scores denoting more received social support. In previous work, received social support has been negatively associated with psychological strain (Ostrowski, 2009), supporting the construct validity of the scale. In the current study, the SOS showed evidence of good internal reliability ($\omega = .91$, $\alpha = .91$).

Procedure

North American Participants on MTurk were invited to participate in a “Survey on Behavior in Social and Romantic Relationships.” Eligibility criteria included that participants needed to be between 18 and 60 years of age, from either Canada or the United States, and to have a lifetime HIT approval rating ≥ 95 (i.e., number of approved assignments divided by completed assignments). Interested participants were redirected to a survey hosted by Qualtrics, where they consented to participate and completed an online questionnaire containing several randomly ordered self-report measures. For completing the survey, participants were compensated with \$1.25 USD. The current study received ethical approval from an appointed research ethics board at Nipissing University in northwestern Ontario.

Statistical analyses

SPSS (version 28) was used for all analyses in the present study. Descriptive statistics were calculated to determine whether variables assumed an approximately normal distribution so that parametric analyses could be conducted (Table 1). Skewness (0.53 to -0.94; SE of skewness: 0.13 to 0.14) and kurtosis statistics (1.58 to -1.36; SE of kurtosis: 0.27 to 0.28) did not exceed a problematic threshold for parametric analyses (Orcan, 2020). The amount of missing data across variables ranged from 2.4 to 7.6%. Pearson product-moment correlations with listwise deletion were employed to test Hypotheses 1a, 1b, 1c, and 1d. To control for the family wise error rate, we used a Bonferroni correction for the correlation analyses where hypotheses were advanced and tested ($\alpha = 0.05/6 = 0.008$; VanderWeele and Mathur, 2019). To assess potential sex differences among variables, a series of independent samples *t*-tests with listwise deletion were performed. To control for the family wise error rate across comparisons, we employed a Bonferroni correction ($\alpha = 0.05/7 = 0.007$). To test Hypotheses 2a and 2b, PROCESS version 3.5 (Hayes, 2022) was used to calculate simple moderation models (Model 1) via bootstrapping (5000 bootstrap samples). Effect coding was

Table 1
Descriptive Statistics, Bivariate Correlations, and Tests of Sex Differences for all Variables.

	1.	2.	3.	4.	5.	6.	7.	<i>t</i>	<i>p</i>	<i>d</i>
1. FoMO	—							-0.37	.712	0.04
2. Status Seeking	.49**	—						0.41	.682	0.05
3. Intrasexual. Comp.	.72**	.42**	—					0.45	.891	0.02
4. SOI – Behavior	.40**	.18**	.48**	—				-1.78	.076	0.21
5. SOI – Attitude	.08	.10	.07	.35**	—			3.68	< 0.001	0.42
6. SOI – Desire	.51**	.30**	.52**	.53**	.42**	—		3.32	< 0.001	0.38
7. Social Support	-0.05	.14*	-0.10	-0.07	-0.01	-0.16**	—	-0.67	.501	0.08
<i>M</i>	2.58	3.90	3.29	11.00	16.40	13.15	5.54	—	—	—
<i>SD</i>	1.03	1.30	1.51	6.40	6.91	7.13	1.09	—	—	—
Minimum	1.00	1.00	1.00	3.00	3.00	3.00	1.00	—	—	—
Maximum	5.00	6.00	7.00	26.00	27.00	27.00	7.00	—	—	—

Note. SOI = sociosexual orientation; correlations significant at * $p < .05$ and ** $p < .01$ (two-tailed) with listwise deletion; *t* = independent samples *t*-tests for sex differences (coded 1 = male, 2 = female) with listwise deletion, *p* = significance level (two-tailed), and *d* = Cohen's *d* effect size estimate.

used for sex (coded: female = 0.50, male = -0.50) and continuous variables that defined products were mean centered. In each model, FoMO was entered as the predictor variable. When examining each facet of sociosexuality, the other two related facets were also entered as covariates to control for their influence.

Results

Bivariate correlations for variables were calculated to test Hypotheses 1a, 1b, 1c, and 1d (see Table 1). As expected, FoMO correlated positively with status-seeking and intrasexual competitiveness, as well as the behavior and desire facets of sociosexuality. These correlations were characterized by large effect sizes ($r > 0.30$; Gignac and Szodorai, 2016) and the *p*-values ($p < .001$) were all below the adjusted Bonferroni level ($p < .008$). In contrast to our expectations, FoMO was unrelated to the attitude facet of sociosexuality and received social support.

Independent samples *t*-tests indicated that only the attitude and desire facets of sociosexuality were sex differentiated (see Table 1), such that males (attitude: $M = 17.78$, $SD = 6.77$; desire: $M = 14.40$, $SD = 7.02$) scored higher than females (attitude: $M = 14.86$, $SD = 6.75$; desire: $M = 11.75$, $SD = 7.02$). These were characterized by medium effect sizes ($\sim d = 0.38$ – 0.42 ; Cohen, 1988). The *p*-values ($p < .001$) for both results fell below the Bonferroni adjusted significance threshold ($p < .007$).

There was no evidence that sex was moderating the links between FoMO with sociosexual behavior, $b = 0.28$, $SE = 0.57$, $p = .629$, attitudes, $b = 0.74$, $SE = 0.67$, $p = .270$, or desires, $b = -0.15$, $SE = 0.58$, $p = .792$. In contrast, sex did moderate the relation between FoMO and received social support, $b = -0.33$, $SE = 0.12$, $p = .007$. Examining the conditional effects showed that the link between FoMO and social support was significant for females, $b = -0.22$, $SE = 0.09$, $p = .011$, but not for males, $b = 0.10$, $SE = 0.08$, $p = .221$ (see Fig. 1).

Discussion

In the past decade, a surge in social media usage has increased feelings of apprehension that we are missing out on or being excluded from important social events (i.e., FoMO; Baker et al., 2016; Popovac and Hadlington, 2020). Nonetheless, feelings of anxiety associated with failing to partake in important social activities are by no means a recent cultural occurrence or the product of living in contemporary society (Buss, 1990). Sociality, cooperation, alliance formation, and altruism are core aspects of human evolutionary history (Henrich, 2015; Richerson, and Boyd, 1998; Tomasello, 2014), meaning that social inclusion and cohesion have likely provided key survival and reproductive benefits over evolutionary time (Baumeister and Tice, 1990). This underscores the utility of an evolutionary perspective in examining the experience of FoMO; however, to our knowledge, no previous researchers have explicitly used an evolutionary lens to study the relations between FoMO and relevant individual differences. Thus, the objective of the current study was to assess the cross-sectional links between FoMO with status-

seeking, intrasexual competitiveness, short-term mating tendencies, and received social support among heterosexual American adults. A secondary goal was to assess whether the relations between FoMO with short-term mating and received social support were sex-differentiated.

In support of Hypotheses 1a and in line with previous research (Abell et al., 2019; Baker et al., 2016), FoMO was positively associated with a stronger desire to strive for status. This result supports the idea that adults higher in FoMO actively vie for social resources, perhaps to avoid negative emotionality, including feelings of shame and inferiority (Abell et al., 2019; Gilbert et al., 2009). Relatedly, and in accordance with Hypothesis 1b, FoMO was positively related with a tendency to be combative with same-sex rivals over valued social and reproductive resources, including physical attractiveness, ambition, competence, and wit (i.e., intrasexual competitiveness; Buunk and Fisher, 2009). This novel finding resonates with and extends previous work showing how those higher in FoMO are more socially combative and often resort to antagonistic surreptitious tactics (e.g., indirect cyberaggression) to avoid feelings of inferiority (Abell et al., 2019). This seems intuitive given that inferiority frustration is a key facet of intrasexual competitiveness (Albert et al., 2022).

In partial support of Hypothesis 1c, a heightened expression of FoMO was related to short-term mating effort in the form of greater unrestricted sociosexual behavior and desires. However, in contrast to our expectation, FoMO was unrelated to unrestricted sociosexual attitudes. This suggests that adults higher in FoMO, despite having more sex with short-term partners (i.e., unrestricted behavior) and having more fantasies about extra-dyadic sex (i.e., unrestricted desires), do not express strong beliefs about the morality of sex in the absence or presence of love and intimacy (i.e., unrestricted attitudes). Biological sex could not account for this null relation, because, contrary to Hypothesis 2a, sex did not moderate any of the links between FoMO and the facets for unrestricted sociosexuality. Thus, despite greater costs associated with missing out on short-term mating opportunities for ancestral males over evolutionary time (Buss, 1995; Buss and Schmitt, 1993, 2019; Davis et al., 2022), both females and males espousing greater fear about missing out on important social activities reported heightened short-term mating effort. Indeed, females can obtain several important adaptive benefits from pursuing short-term mating strategies (e.g., “trading up” for a better long-term partner; Buss and Schmitt, 2019), and FoMO may compel females to strive for these sexual relationships and the resources they can confer.

Contrary to Hypothesis 1d and in contrast to some previous work (e.g., Dou et al., 2021), FoMO did not correlate with degree of received social support. Following a seven-day period of social media abstinence, using a within-subjects design Brown and Kuss (2020) found a negative relation between FoMO and social connectedness. Dou et al. (2021) also found a negative link between FoMO and perceived social support. It is uncertain why we were unable to replicate this finding in the current present study. Given that Brown and Kuss (2020; $M_{\text{age}} = 20.27$) and Dou et al. (2021; $M_{\text{age}} = 24.4$) studied young adults, perhaps the null find-

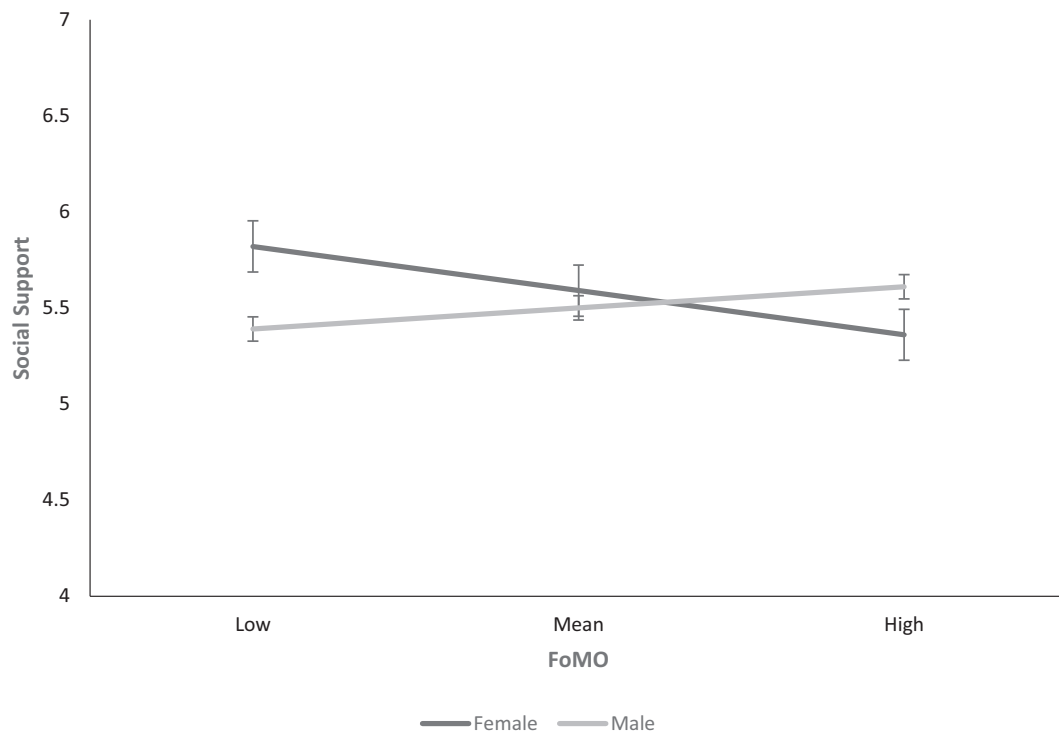


Fig. 1. Interaction between FoMO and Sex in Predicting Social Support.

Note. Simple moderation model of FoMO ($-1SD$, mean, $+1SD$) interacting with sex (coded: female = 0.50, male = -0.50) in predicting received social support; error bars (95% confidence intervals) are displayed for females and males.

ing was due to the higher mean age in the current study. Received social support tends to increase with age (e.g., Jensen et al., 2014). Furthermore, most participants in our sample were in romantic relationships (70.9%), and romantic partners are a key source of social support for adults (Power et al., 1988). Neither Brown and Kuss (2020) nor Dou et al. (2021) assessed relationship status in their studies, but this could also help to account for the null result in the current study.

However, as predicted, the link between FoMO and social support was moderated by biological sex: for females a greater expression of FoMO was associated with lower reported social support, but not for males. This result supported Hypothesis 2b. Previous research has shown how females form more intimate and emotionally close social relationships (Lagerspetz et al., 1988; Turner, 1994), and that they place more value on and derive more support from these relationships (Turner, 1994; Williams et al., 2022). Furthermore, females are more often targeted for social exclusion, which has likely been a recurrent problem faced by ancestral females over evolutionary time (Benenson et al., 2013, 2011; Davis et al., 2020). The experience of FoMO among females may alert them to the dilemma of having inadequate social resources and connections, which may then spur compensatory behavior. The same cannot be said for males, who over evolutionary time have likely not experienced a similar level of threat to their social relationships in the form of social exclusion, and who cultivate a greater number of more emotionally superficial social relationships.

Limitations and future directions

Some important limitations of the current work should be noted. The reliance on self-report instruments entails that the data could have been influenced by various response biases (Furnham and Henderson, 1982) and common method variance (Lindell and Whitney, 2001). Both represent potential threats to the validity of the current findings. In future work, scales to control for response bias, such as social desirability (Paulhus, 1988), and experimental approaches to examining FoMO (e.g.,

Mannion and Nolan, 2020) could be employed. The instrument used to measure status striving in the current study (SSI; Paskov et al., 2017) also contains items that reflect accruing prestige-based status through respect and admiration. However, individuals can also strive for status via dominance using fear, intimidation, and coercion (Cheng et al., 2013; Henrich and Gil-White, 2001). Like those higher in narcissism, it is possible that adults higher in FoMO may strive for status in line with both prestige and dominance (Davis and Vaillancourt, 2022). It would be fruitful for future researchers to examine these links, given that those high in dominance status-striving more often perpetrate direct (e.g., physical aggression; Johnson et al., 2007) and indirect aggression (e.g., malicious gossip; Davis and Vaillancourt, 2022).

Furthermore, the SOS (Power et al., 1988) can be used to measure both *received* and *desired* social support, and only the former was examined in the current study. Thus, it would be interesting to see if the desire for social support shares a negative relation with FoMO, and whether this relation is similarly sex-differentiated in accordance with received social support. We also limited our scope to studying the relations between FoMO and indices of short-term mating effort (i.e., unrestricted sociosexual behavior, attitude, and desire). However, it might be the case that those higher in FoMO express heightened mating effort for both short-term and long-term partners. This might help to make sense of the null relation between FoMO with unrestricted sociosexual attitudes. Furthermore, our data were cross-sectional, and we cannot state that FoMO *caused* an increase in status-striving, intrasexual competitiveness, and short-term mating proclivities, or received social support in females. Longitudinal and experimental data would help to establish the casual ordering of variables in the current study.

Conclusion

Sociality is central to the evolutionary heritage of human beings (Henrich, 2015; Tomasello, 2014), and the need to belong is likely a universal fundamental human motive (Baumeister and Leary, 1995).

Over the past decade, with the rise of social media usage in contemporary society, many researchers have been interested in studying the mental health consequences surrounding fears that one may be missing out on important social activities (i.e., FoMO; Brown and Kuss, 2020; Dempsey et al., 2019; Przybylski et al., 2013). However, failing to participate in social events and missing out on opportunities to socialize are not contemporary problems that came about with the advent of social media. Indeed, emotions like anxiety likely evolved, in part, to help solve problems related to group living, including the avoidance of social exclusion (Baumeister and Tice, 1990; Buss, 1990). Moreover, social media has likely created an evolutionary mismatch that exacerbates negative mental health via triggering adaptations for social belonging and cohesion (Blease, 2015; Lim and Yong, 2019). Nonetheless, to our knowledge, none have framed the phenomenon of FoMO in an evolutionary perspective. In the current study, American heterosexual adults higher in FoMO expressed a stronger desire to strive for status, compete with same-sex others for social and reproductive resources, and to devote more effort toward short-term mating. Only females exhibiting higher levels of FoMO reported that they received less social support. These findings help to provide a foundation for using an evolutionary approach to study individual differences in the experience of FoMO in contemporary society.

Data and code availability statement

SPSS (version 28) data and syntax used in the current study can be made available upon request from the corresponding author at [blinded for review].

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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