

INTRODUCTION

- In adolescence depression increases drastically, particularly for girls (Hankin & Abela, 2005)
- Depression is associated with impairments across a variety of domains, including deficits in social functioning (Renouf et al., 1997).
- Limited research has tested mechanisms of the relation between depression and impaired social functioning.
 - Disrupted sensitivity to *reward* and *punishment* may play a key role mediating this relation.
- Depression is related to decreased sensitivity to reward and increased sensitivity to punishment (Eliot et al., 1996; Forbes et al., 2006)
- Sensitivity to *social* reward (willingness to seek out social praise) and *social* punishment (avoidance of experiences where criticism is likely) may be particularly disrupted for adolescents with depression.
- Disrupted social approach and avoidance processes may contribute to deficits in social functioning.

RESEARCH AIMS

- Aim 1:** Replicate the association between adolescent depression and deficits in social functioning
- Aim 2:** Test disrupted behavioral sensitivity to social reward and social punishment as mediators of the relation between depressive symptoms and social functioning

METHOD

Participants

- 112 females between the ages of 13 and 18
- 50 community participants ($M = 15.62$, $SD = 1.29$); 62 college participants ($M = 18.05$, $SD = .38$)

Procedure

- Participants completed self-report measures and a behavioral sensitivity to social reward and punishment task

Measures

- Depression:** 20-item Center for Epidemiologic Studies Depression Scale (CES-D, Radloff, 1977), scored on a 0-3 Likert scale; $\alpha = .87$
- Social Functioning:** 5-item Social Competence subscale of the Self-Perception Profile for Adolescents (SPPA; Harter, 2012), 1-4 Likert scale; $\alpha = .88$
- Behavioral Sensitivity to Social Reward and Social Punishment**
 - Profile Questionnaire:** First, participants created brief profiles of themselves describing their likes and dislikes (e.g., favorite music)
 - Peer Rating:** Next, they rated profiles of three “participants” allegedly participating at other sites (e.g., *I have a lot in common with this person*). In reality profiles of other “participants” were standardized.
 - Social Feedback Task:** Participants worked (i.e., pressed the space bar) to receive feedback from three “participants” via a willingness to work task. Participants received feedback across three conditions: positive, negative, and neutral.
 - The number of presses to receive positive social feedback = **sensitivity to social reward (SR)**
 - The number of presses to continue receiving negative social feedback = **sensitivity to social punishment (SP)**

RESULTS AIM 1

- Bivariate correlations tested the relation between depression and social functioning.
- Depression was negatively related to social functioning in both community and college samples (see Table 1).

	1	2	3	4
1. Depression	--	.36**	.31*	-.29*
2. Sensitivity to Social Reward	-.15	--	.52**	.03
3. Sensitivity to Social Punishment	-.06	.78**	--	-.17
4. Social Functioning	-.54**	.16	.06	--
Community Sample				
Mean	13.74	72.04	79.37	2.92
SD	8.76	68.89	70.61	0.79
Range	2-38	3-279	3-273	1-4
College Sample				
Mean	12.03	50.08	49.32	2.86
SD	7.74	32.35	44.97	0.69
Range	0-29	4-153	4-238	1-4

Table 1. Correlations for community participants below the diagonal, college participants above the diagonal * $p < .05$. ** $p < .01$

RESULTS AIM 2

Differences between community and college participants emerged on sensitivity to social feedback, thus results are presented separately.

Poisson regression analyses were conducted to test each path in the mediation model since our measure of social feedback yielded count data.

Community Participants ($n = 50$)

- Depression was related to *decreased* sensitivity to social reward and *increased* sensitivity to social punishment (see Figure 1)
- Sensitivity to social reward was related to increased social functioning
- Elevated depression was associated with working *less* for social feedback. Greater social functioning was related to increased sensitivity to social reward.

College Participants ($n = 62$)

- Depression was related to *increased* sensitivity to social reward and *decreased* sensitivity to social punishment (see Figure 2)
- Sensitivity to social punishment was related to impairments in social functioning
- Elevated depression symptoms was associated with working *more* for social feedback. Deficits in social functioning was related to decreased sensitivity to social reward.

Figure 1. Community Sample

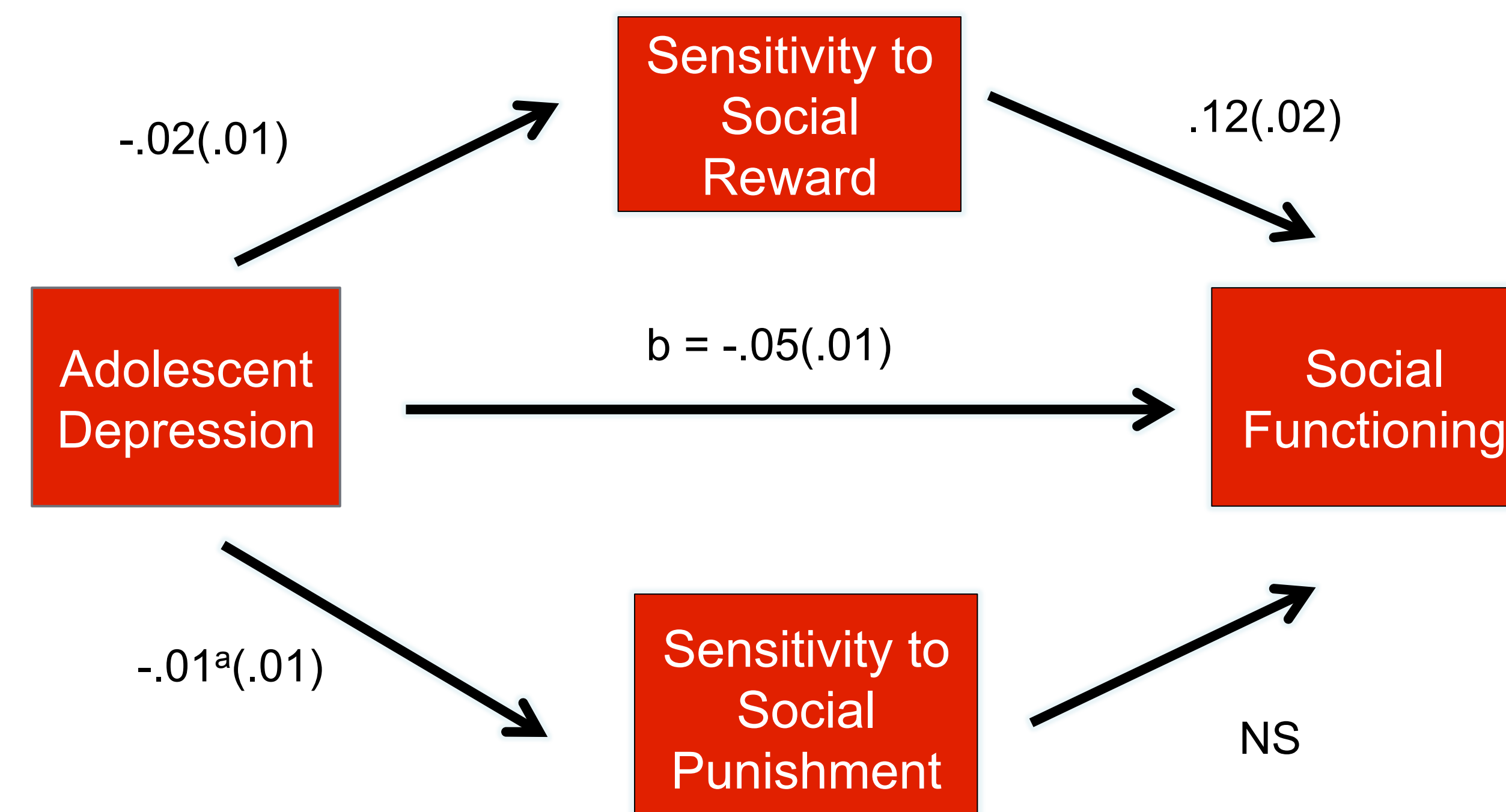
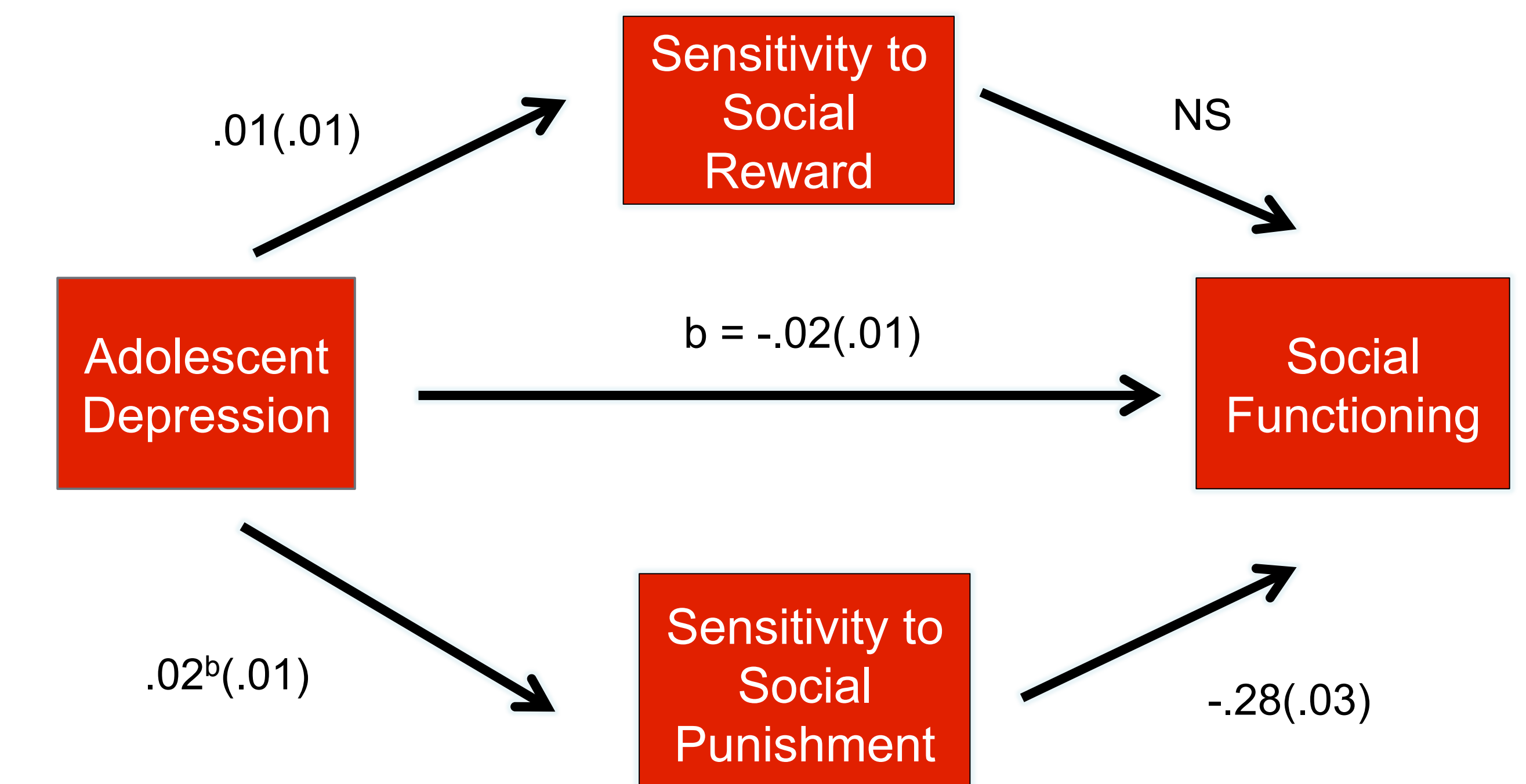


Figure 2. College Sample



Note. Community sample ($n = 50$), college sample ($n = 62$). All paths significant unless denoted by NS (non significant). ^a = decreased approach to negative feedback (i.e., fewer button presses to receive negative feedback) suggesting increased sensitivity to SP, ^b = increased approach to negative feedback (i.e., greater button presses) suggesting decreased sensitivity to SP

DISCUSSION

- Individuals who experience higher levels of depression also experience deficits in social functioning (Hirschfield et al., 2000).
- Alterations in sensitivity to social reward and social punishment may mediate the relation between depression symptoms and disrupted social functioning.
- Community adolescents with elevated depressive symptoms worked *less* for both positive and negative feedback; however, college students with elevated depressive symptoms worked *more* for both positive and negative social feedback.
- The relation between depression and sensitivity to social feedback may depend on age and/or developmental level.
- Regarding sensitivity to social feedback and social functioning, results from community participants suggested that adolescents who actively seek out *positive* feedback from peers may display greater social functioning, whereas college participants who actively avoid *negative* feedback from peers may display greater deficits in social functioning.
- Due to the distribution of our mediator variables, formal tests of mediation were not conducted. Future work is needed to test this model longitudinally.
- Behavioral tasks assessing approach and avoidance of social feedback may better approximate adolescent’s “real-world” behavior; however, additional research is needed to confirm this.
- Finding high social reward, low social risk opportunities may be beneficial for teens with depressive symptoms