

Vagal Tone and Perceived Support within Adolescent Friendships: Considering the Role of Interaction Type and Gender

Vagal tone (i.e., parasympathetic regulation of cardiac activity via the vagus nerve) is an important factor for emotional self-regulation (Beauchaine, 2015) and functioning in close relationships (Porges, 2019). It is frequently measured using respiratory sinus arrhythmia (RSA) which indexes high-frequency heart rate variability over the respiration cycle. RSA has been linked with youths' peer group functioning, including positive coping with victimization (Erath & Tu, 2014) and boy's prosocial behavior (Eisenberg et al., 1995, 1996). However, RSA has not been considered in relation to adolescent friendships (Murry-Close, 2012), which are central sources of emotional support during adolescence (Furman & Rose, 2015). The current study examined relations between adolescents' resting RSA activity and their perceived support during friendship interactions. We hypothesize that higher levels of RSA will be associated with higher levels of perceived support. We also consider whether the association between resting RSA activity and perceived support depends on the context in which support is given (i.e., plan a party/positive context, talking about a problem/negative context), and gender. To address hypotheses, 146 participants who were 8th, 9th, and 10th grade came in the lab with a same-gender friend. Three disposable electrodes were applied to participants' torsos to monitor electrocardiogram (ECG) data, and a monitor respiration belt was applied around their diaphragms. Resting RSA activity was measured while adolescents sat quietly for 3 minutes in separate rooms. Friends participated in two interaction tasks: (1) talk about a personal problem for 16 minutes and (2) planning a party for 7 minutes. After each task, adolescents responded 10 items assessing perceived friendship support (e.g., "My friend accepts me no matter what I do") on a 5-point scale ranging from 1 (*not at all true*) to 5 (*really true*).