Thoman, D.B., Sansone, C., Fraughton, T., & Pasupathi, M. (in press). How students socially evaluate interest: Peer responsiveness influences evaluation and maintenance of interest. *Contemporary Educational Psychology.*

How students socially evaluate interest:

Peer responsiveness influences evaluation and maintenance of interest

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This research was funded in part by the Grants-In-Aid Award from the Society for the Psychological Study of Social Issues and the Clayton Award for Research Underrepresented Populations from the University of Utah. Preparation of this article was also supported by a grant from the National Science Foundation (DRL # 0735264) and the National Institute of Health (1R01GM098462-01). The contents of this research are solely the responsibility of the authors and do not necessarily represent the official views of NSF or NIH.

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Abstract

Social influences (e.g., by teachers, parents and peers) on students' experience of interest are typically described in terms of affecting students' initial choice of and/or completion of specific educational activities. When considered within the framework of the Self-Regulation of Motivation (SRM) model, however, other people may influence the interest experience even *after* activity completion, by influencing how a person evaluates that past experience. Previous experimental research showed that when students talked about a game upon completion, listeners' responsiveness influenced their evaluation of interest. The present research examined whether peer responsiveness when undergraduates talked about topics covered in actual classes predicted students' evaluation of class interest. In Study 1, we examined responsiveness in the context of conversations that took place as a structured part of an online psychology class (i.e., discussion board), and found that the frequency of replies from classmates to students' posts (but not the reverse) predicted students' interest in the class measured at the end of the semester. In Study 2, we examined responsiveness in the context of students' reported everyday conversations about two completed interesting class topics or two completed class exams in an introductory physics course. Perceived listener responsiveness in conversations about class topics (but not about exams) predicted students' concurrent evaluation of class interest, even when controlling for anticipated interest at the beginning of the semester. Moreover, listeners indirectly affected interest measured at the end of the semester via their influence on interest during the semester.

Keywords: Interest, Intrinsic motivation, Self-regulation, Social feedback, Conversations

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1. Introduction

Understanding the nature and development of student interest is an important task for educational psychologists because interest contributes to student learning outcomes and directs educational choices. Although defined in a variety of ways (e.g., as emotion, as attitude, as value) and at a variety of levels (e.g., from momentary reactions to stimuli to well-developed individual interests that define a person), most researchers agree that interest plays an important role in student learning (see Renninger & Hidi, 2011, for a recent review). For example, interest in a topic enhances learning and promotes performance and achievement (Ainley, 2006; Hidi, 1990; Shiefele, Krapp, &Winteler, 1992), in part by facilitating cognitive performance, attention, and reading comprehension, (e.g., Ainley, Hidi, &Berndorff, 2002; Alexander & Jetton, 1996; Renninger & Wozniak, 1985; Schraw & Lehman, 2001). When interested, students exert greater effort and persist longer with a given topic (Krapp & Lewalter, 2001; Thoman, Smith, & Silvia, 2011). Interest also predicts greater likelihood of pursuing similar classes and careers paths (e.g., Harackiewicz, Barron, Tauer, & Elliot, 2002; Harackiewicz, Durik, Barron, Linnenbrink, & Tauer, 2008).

Student interest can be influenced by a number of factors in the learning environment. Structural features of the task or learning context that trigger attention, evoke surprise, arouse curiosity, allow for positive efficacy, or show how the material is relevant to everyday life can make a topic more interesting (Berlyne, 1971; Bergin, 1999; Cordova & Lepper, 1996; Silvia, 2005). Other people can also influence student interest. For example, parents and teachers can promote interest by pointing students in the right direction, helping them overcome obstacles, and supporting students' choices and the creation of new identities as students pursue where initial interest leads (Ciani, Ferguson, Bergin, & Hilpert, 2010; McCaslin, 2009; Hidi &Renninger, 2006; Renninger, Sansone, & Smith, 2003). In addition, working with or simply

working alongside another student can promote greater activity interest, particularly for students higher in interpersonal orientation (Isaac, Sansone, & Smith, 1999).

We have begun to further investigate social influences on interest within our Self-Regulation of Motivation (SRM) model (Sansone & Thoman, 2005). In this model we focus on motivation that is derived from the anticipated, sought or actual *experience* of interest, in addition to motivation that is derived from the desire to achieve or attain certain goals or outcomes. The model attempts to integrate the sequential relationships between these two kinds of motivation within a self-regulatory process over time. Like most self-regulation models, SRM conceptualizes initial activity engagement as goal-directed (including goals to experience interest). Once engaged in the activity, however, the SRM model asserts that one's *experience* of interest in the activity can become the proximal motivator for persistence, and that individuals not only monitor and regulate progress toward goals but also their experience of interest. For example, when there is sufficient reason to persist on an uninteresting activity, people strategically regulate this boring experience by using interest-enhancing strategies (when available) (Sansone, Weir, Harpster, & Morgan, 1992). By situating interest within a continuous self-regulatory process, the model defines interest as a dynamic state that arises through an ongoing transaction among goals, context, and actions (Sansone & Smith, 2000). Our definition of this dynamic process is thus distinct from situational interest, which refers to interest for novel topics generated in response to characteristics of the stimuli and situation, and from well-developed individual interests (although we envision the self-regulatory process as a mechanism through which momentary reactions to situational characteristics can develop into individual interests).

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Figure 1 illustrates the multiple points in the SRM process where social (and other contextual) factors can affect interest. Previously studied social influences on interest, such as working with or alongside another student (Isaac et al., 1999), can be incorporated into these routes (Thoman, Sansone, & Pasupathi, 2007). In addition, the model proposes routes of influence that have been largely underexplored. Specifically, the model predicts that other people (included as a contextual characteristic in the upper right corner of the Figure) can influence one's evaluation of the interest experience.

1.2 How do other people influence the evaluation of interest?

When interest is conceptualized within an ongoing self-regulatory process, the evaluation of interest can occur not only during activity engagement, but also after. In particular, feedback affecting interest can occur during social interactions that take place after the activity is completed, such as when students talk with others about class topics or activities. Conversation partners provide feedback both explicitly, such as in statements about their own interest in a topic or judgments about the individual's interest, as well as implicitly, through subtle cues that indicate interest, attentiveness, and mutual engagement in the topic (Clark, 1996). The model predicts that when students talk about class topics, social feedback during these conversations can influence the individual's evaluation of her or his own interest.

During social interactions, several processes may explain how feedback from others contributes to the evaluation of the experience as interesting. One possibility is that when others indicate their own interest in a topic (either explicitly or when interest is inferred from subtle listening behavior) individuals may consciously integrate this information into their own evaluation or conform their evaluation to match others' opinions. Peer groups influence students' liking and enjoyment of school (Ryan, 2001), so knowing peers' interest or opinions of a topic

could influence students' own evaluations. Another possibility is that simply engaging in discussion, regardless of whether others agree or disagree, keeps individuals actively engaged with the topic or activity. Staying engaged through discussion may influence one's evaluation of interest, particularly if that engagement generates deeper knowledge or promotes new ways of thinking about the topic (Hidi & Renninger, 2006). Agreement or attention from conversation partners could also be experienced as rewarding, and may reinforce, through basic learning principles, further engagement with the topic being discussed. Finally, during conversations, individuals may use social feedback to calibrate their own evaluations. Whether others appear to be listening can signal verification of one's perception or evaluations (including interest) of events as valid and worth discussion (Pasupathi, 2001; Pasupathi & Rich, 2005). This feedback mechanism is distinct from the content of others' responses, and may derive from the motivation to achieve and maintain a shared reality with others (Higgins & Hardin, 1996). Each of these mechanisms may explain how feedback from others influences the evaluation of interest, and contextual constraints may determine which process(es) explains the effect in a given situation.

Experimental data have demonstrated effects of social feedback on the evaluation of interest in novel activities. In Pasupathi and Rich (2005), college students came into the lab to play a novel computer game, and then described their experience to a friend who had accompanied them to the lab. Participants rated their interest in the game both before and after the conversation. Participants were unaware that experimenters had manipulated listeners' responsiveness to their friends' descriptions of their experience with the game. When listeners had been instructed to count the number of 'th' words that the speaker said while describing the activity (i.e., to mute normally responsive listening behaviors), speakers' interest in the activity dropped from pre- to post-conversation. When listeners instead were instructed to listen to their

friends as they normally would, interest levels were maintained. Importantly, when listeners had been instructed to disagree with the content of the speaker's description, interest was also maintained. Thus, interest dropped after the conversation period only when the listener appeared unresponsive, suggesting that (un)responsiveness may be more important for regulating interest than whether one's evaluation of the activity is explicitly verified by the listener.

Thoman, Sansone, & Pasupathi (2007) replicated and extended these findings. Using the same laboratory paradigm as Pasupathi and Rich (2005), Thoman et al. (2007, Study 2) first replicated the finding that interest in a novel computer game was stable from pre-to-post conversation when talking with an attentive friend, but decreased after talking with an unresponsive friend. In addition, by contacting students later and asking them to report on their conversations about the activity since their participation, Thoman et al. found that perceived responsiveness of listeners during spontaneous retellings outside the lab significantly predicted activity interest at the 4-to 6-week follow-up measure, over and above the interest they reported at the end of the lab session.

Together, these studies demonstrate that activity interest can be affected not only by the individual's experience during the activity but also by talking with others about the activity later. In particular, individuals' evaluations of the activity experience and maintenance of interest in the activity appear to be influenced by unresponsive behavior of listeners during these conversations. However, because this paradigm involved students talking about a novel computer game with friends, it is not clear whether the lack of response is also important in educational contexts.

1.3 Peers' responsiveness and evaluation of interest when learning

The potential for others to influence one's evaluation of interest may be especially important to consider within education. Particularly for students in their teens and early 20s who

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are beginning the process of deciding career paths, the reactions of peers when they talk about class topics and activities may be an important contribution to determining their developing interests and ultimate identities (e.g., Renninger, 2009; Pasupathi & Hoyt, 2009; McCaslin, 2009). The current research examines the possibility that that influence is not limited to explicit feedback by others, but can occur implicitly through whether they appear to be listening.

The first study in Thoman et al. (2007) provides some initial support that conversations with others may affect educational interests. College students described a school–related activity that was made more interesting by working with others. Results suggest that the more frequently students reported talking with others about the activity afterward, the more they reported a subsequent increase in their interest, and this was true whether or not working with others had been their choice. These findings were particularly true for students higher in interpersonal orientation, as measured by the Relational Self-Construal Scale (Cross, Bacon, & Morris, 2001), which is proposed to capture differences in the degree to which individuals define themselves in terms of their relationships with others.

Although suggestive, these data based on retrospective self-reports have a number of limitations. Thoman et al. (2007) could not address whether talking with others about the school-related activity caused greater interest or whether individuals who found the activity more interesting to begin with were also more likely to talk about it. In addition, because the nature of the activity that individuals chose to describe was free to vary, it was possible that some *activities* were both more interesting to experience and more interesting to talk about, but one did not affect the other. Moreover, although Thoman et al. found that the reported frequency of conversations predicted increased interest, they did not assess students' perceptions of how responsive others were during the conversations.

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2. Current studies

In two studies, we test the SRM model's prediction that peer responsiveness when undergraduate students talked about topics covered in actual classes affects students' evaluation of interest in the class. Both studies measure conversational feedback from classmates and test associations with subsequent evaluations of interest for the class. Both studies focus on the responsiveness quality of social feedback as the key predictor of interest, and test alternative explanations for results. Across studies, we select different classes and vary the methodology to test a number of specific model predictions and boundary conditions.

First, we select different types of classes across studies to test whether results generalize across classes with different content. We examine interest in a social psychology class in Study 1, and a physics class in Study 2. Second, we test the model's assumption that peer responsiveness should influence evaluation of interest regardless of the medium through which it is communicated. In social interactions, participants need to establish mutual understanding and engagement with the topic; they may do this by distinctive means for different media (e.g., face to face, phone, email), but in all cases, mutual engagement must be established for interactions to take place smoothly and to be maintained (Clark, 1996). We use the term responsiveness to indicate the communication of mutual engagement in a conversation. While the details of how responsiveness is communicated may differ across different conversational contexts, we expect that this quality of responsiveness will predict subsequent evaluations of interest across contexts.

In Study 1, we examine peer responsiveness in conversations that took place as a structured part of an online class (i.e., an online discussion board that was graded). Utilizing class discussion boards allows us to behaviorally define peer responsiveness rather than rely on self-reports. We examine transcripts from these online discussions to determine whether the

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frequency of replies from classmates to students' comments made on the discussion board predicts students' interest in the class measured at the end of the semester. In contrast, in Study 2 students in a traditional format class reported on conversations that were not a structured part of the class. Although we expected the type and quality of the interactions, including details of how responsiveness is communicated, to differ across these contexts, we expected that peer responsiveness would predict subsequent evaluations of interest in both classes.

Third, across studies we measure interest at different points in time, to examine potential cumulative and concurrent effects of responsiveness. In Study 1, we test whether a cumulative measure of discussion board responsiveness predicts interest at the end of the semester. In Study 2, we collected students' reports of their conversations and class perceptions several times during the semester to determine whether responsiveness affected students' concurrent experiences of class interest during the semester. To address comparability with the first study, we also assessed class interest at the end of the semester.

Fourth, we test whether the topic of conversation serves as a boundary condition of the model. Specifically, in Study 2 we examine whether peer responsiveness predicts evaluation of interest following conversations about exams, as well as following conversations about class topics. If the content of the conversation does not matter, peer responsiveness should predict interest similarly following both types conversations. If the content matters, however, we would expect others' responsiveness when talking about class topics to predict evaluation of interest, but that responsiveness when talking about exams to be unrelated or only indirectly related to the evaluation of interest. In the latter case, feedback in response to talking about exams might influence an individual's perceptions of competence or class difficulty, or the value of achievement, which could in turn predict interest (Harackiewicz & Hulleman, 2010). For both

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studies, it was important to examine whether any effects of peer responsiveness are distinct from overall differences in levels of social interactions, because students who simply interacted more with others could experience greater interest (Isaac et al., 1999). We thus included number of responses individuals made to others (Study 1) and the overall number of conversations (Study 2) in analyses. We also examined potential alternative explanations for why peer responsiveness might be associated with interest. Specifically, we tested whether students' perceptions that others agreed with them would account for effects of peer responsiveness. We also tested whether the relationship between peer responsiveness and interest could be due to students' performance (grades) in the class. For example, peers may be more responsive students who are performing better in the class and make more knowledgeable comments to respond to. Further, we examined whether responsiveness was differentially related to the evaluation of the experience as a function of individual differences in interpersonal orientation (both studies) or gender (Study 2).

3. Study 1

We utilized transcripts from an online social psychology class as records of actual class-related conversations that represented structured conversations between classmates. The structure allowed us to empirically define peer responsiveness, because students responded in writing to posts made by other students. We coded class discussion posts and responses, and tested whether the frequency of classmates' replies to students' posts predicted students' interest in the class at the end of the semester. We expected that the online context may exacerbate the role of others' feedback (because there is so little interpersonal contact), particularly for those higher in interpersonal orientation who may be more sensitive to interpersonal feedback (Rubin & Brown, 1975; Smith & Ruiz, 2007). We thus measured individual differences in interpersonal orientation

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as a potential moderator of effects of responsiveness (i.e., number of replies from others). We also asked whether responses from others would predict interest independently of perceived agreement in those responses, and whether potential effects on interest could be accounted for by grades.

3.1 Participants

Participants were 70 undergraduate students recruited from two sections of an identical online Social Psychology course taught by the same instructor, one taught at the University of Utah and the second at California State University, Long Beach. Independent samples t-tests indicated no significant differences between the sections on any study variables, except for proportions of ethnic background, which were not related to outcomes in either section. The combined sample was 77% female, 61% European American, 13% Hispanic/Latino American, 10% Asian American, and 7% African American (7%). Of the 92 total students enrolled in the two classes, 76% volunteered to participate for extra credit.

3.2 Procedure

As part of class designed independently of this research, students in an online Social Psychology class were required each week to post at least one original comment on the course discussion board and comment on at least one other student's post. At the end of the semester, students who volunteered to participate completed an online survey that asked them to report their perceptions of the course and of various specific components of the course (including the discussion board), as well as complete an individual difference measure and demographic items.

3.3 Measures from survey and class performance

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Class interest. Three items (Cronbach's α = .83) assessed students' interest in the class (e.g., "How interesting did you find this class?"). Items were rated on a scale ranging from 1 (Not at all) to 7 (Very much).

Perceived agreement with discussion posts. Students rated the degree to which others agreed with their discussion post comments with the item, "In general, I think other students agreed with what I posted on the discussion board" on a scale ranging from 1 (Strongly disagree) to 7 (Strongly agree).

Interpersonal orientation. The Relational-Interdependent Self-Construal scale (Cross et al., 2000) includes 11-items (alpha = .81) designed to capture differences in the extent to which individuals define themselves in terms of their relationships with others (e.g., "My close relationships are an important reflection of who I am"). Each item was rated on a 7-point Likert Scale (1 = strongly disagree, 7 = strongly agree). This is the same measure of interpersonal orientation used by Thoman et al. (2007, Study 1).

Class Grades. For all participants who had consented to release their grades, the instructor provided final class grades in percent metric. Grades ranged from 51% to 98%.

3.4 Measures from discussion board transcript

Discussion board posts were coded into three different categories: original posts by the student, replies to others *by* the student, and replies *to* the student from others. Number of replies to a student from others was used as the measure of peer responsiveness. The other codes allowed us to interpret any effects of peer responsiveness in the context of a student's general level of interactions with others. The three coders who independently rated the discussions all scored one of the weeks to obtain reliability, and agreement across the three coders was greater than 90% in all coding categories described below.

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Original posts. Original posts were defined as any post by a student that marked the beginning of a new topic or original idea. An example of a discussion board posted coded in this category is:

> "I was really fascinated with the [textbook's] discussion about social learning theory and also the interaction that the "self" has with the environment. I knew that I used social learning, which is observing rewards and punishments that others receive for their behavior, in creating my own external behaviors and attitudes, but I never realized that I also use social learning in the way I view myself. To use an example, when I watch TV or movies, most of the women are super thin and praised for being so beautiful. I can see that they`re being rewarded for being thin. This in turn, not only affects my dieting behaviors, it affects the way I look at myself, because I am a bit chubby. This may seem like common sense to all of you, I just had never looked at the theory in this way before. I`m excited to learn more about social learning, to see if I`m way off base!"

Others' responses (to student).Others' responses to a student's posts were defined as any response made to a post that continued on the same idea as the originating post. An example of a discussion board posted coded in this category is:

> "That is a very interesting thought you had. I suppose I never saw the social learning theory in that light either. It is very true that social learning theory can also play a part in how we view ourselves. In TV/movies, women are often praised for being thin. I think that my behaviors and attitudes in life are often a reflection of that image constantly being portrayed."

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Student's responses (to others).A student's response to others was defined as any post by a student that directly responded to someone else's original post, and that continued on the same idea as the original post.

3.5 Results

Table 1 presents the descriptive statistics and Pearson correlations among the study variables, including each of the coded discussion board categories, class interest, perceived agreement (to discussion posts), interpersonal orientation, and class grade.

To examine whether peer responsiveness predicted students' evaluations of class interest, we regressed class interest on a model that included the main effects of number of others' responses to a student and the number of a student's responses to others. (All continuous variables in these and subsequent regression models were centered (means subtracted) to reduce multicollinearity (Cohen, Cohen, West, & Aiken, 2003)). We included the number of a student's responses to others to distinguish between potential effects specific to peer responsiveness from general activity level of interpersonal interaction. In the second step of the model, we included interpersonal orientation and its interaction with each of the responsiveness variables. However, there were no significant effects involving interpersonal orientation in any analyses, so it will not be discussed further.

The regression model predicting class interest was significant overall, $F(2, 62) = 4.35$, $p = .02$, $R^2 = .13$. The number of others' responses to a student was significant ($\beta = .32$, $t(62) = 2.63$, $p = .01$), suggesting that students who received more responses from classmates to their discussion board posts perceived the class as more interesting than students who received fewer replies from classmates. The number of a student's responses to others was not significant ($\beta =$

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.13, $t(62) = 1.08$, $p = .28$), suggesting that the relationship interest was accounted for by the degree of peer responsiveness rather than the student's responsiveness to others.

3.5.1 Potential alternative explanations

Is effect of peer responsiveness distinct from perceived agreement? We repeated the interest regression analysis but included perceived agreement by others to test whether agreement, rather than responsiveness, accounted for the relationship with interest (cf. Pasupathi & Rich, 2005; Thoman et al., 2007). In this analysis, perceived agreement was not significant ($\beta = .004$, $t(61) = -0.29$, $p = .97$), and the previously reported results involving peer responsiveness were unchanged.

Is the effect of peer responsiveness on interest distinct from performance? To determine whether the relationship between peer responsiveness and interest was related to performance in the class, we again repeated the interest regression analysis but this time included class grade as a predictor. Class grade was not significant ($\beta = .06$, $t(61) = 0.47$, $p = .64$), and the previously reported results involving peer responsiveness were unchanged.

Is the effect of peer responsiveness distinct from effect of original posts? Although number of original posts was not a metric of *responsiveness*, it was of necessity correlated (see Table 1) because original posts provided the comments to which peers could respond. We thus tested whether number of original posts accounted for the relationship between peer responsiveness and interest. Number of original posts did not predict interest ($\beta = .09$, $t(61) = 0.68$, $p = .53$) when added to the previous model, and the previously reported results involving peer responsiveness were unchanged.

3.6 Discussion

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From coding transcripts of an online social psychology class discussion board and asking students to evaluate their interest in the class at the end of the semester, we found that fewer replies from classmates was associated with less interest in the class. Results using this objective measure of peer responsiveness were consistent with findings of Pasupathi and Rich (2005) and Thoman et al. (2007, Study 2), and extend their findings because listener feedback in this study came from classmates in an online course, rather than close friends or significant others. These findings could not be explained by the number of original posts that students made nor how many replies they made to others. This relationship was also not moderated by individual differences in interpersonal orientation, suggesting that online discussion responses were related to interest for all students. Moreover, controlling for perceived agreement with one's posts or for class grades did not account for the relationship. The results are thus consistent with the SRM model's hypothesis that peer responsiveness can affect evaluation of interest for an actual class.

However, the nature of these data means that other possible causal paths are also possible. For example, it is possible that students with greater interest at the start of the class interacted in ways that drew greater responsiveness from classmates, and that it is these differences in beginning levels of interest, rather than greater responsiveness from classmates, which are responsible for greater interest at the end of class. However, although this alternative cannot be ruled out with the current data set, given that the results do not obtain for number of original posts or for the number of responses that a student made to others', and that other channels of communication (e.g., nonverbal) were not available in this medium, this alternative path appears less likely.

Although Study 1 conceptually replicated results of previous lab studies in the context of a real class, by utilizing online discussion boards we limited conclusions to a class that might

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exaggerate the importance of peer responses. That is, the content of the class (social psychology) primed the importance of others, but took place in a context that limited the degree to which social interactions were possible (online context). The small, primarily female, sample was also a potential limitation, in that there might have been insufficient power to detect interactions with interpersonal orientation, and not enough males to detect interactions with gender (although Pasupathi and Rich (2005) and Thoman, et al. (2007, Study 2) did not find that gender moderated the effects of peer responsiveness). In addition, because we averaged across peer feedback that occurred throughout the semester and measured interest at the end of the semester, this study could not address whether peer responsiveness had concurrent impact on interest or whether its effect emerged only cumulatively. Measuring the cumulative effect of averaged peer feedback also likely provided a more conservative effect size estimate relative to concurrent effects of feedback on interest. Moreover, without a baseline measure, we were unable to examine whether interest actually changed during the semester as a function of peer responsiveness. We conducted a second study that addressed these limitations, with the goals of conceptually replicating these findings in a different class context, focusing on effects of peer responsiveness on concurrent evaluations of interest and examining new questions about conversation content.

4.0 Study 2

To examine whether peer responsiveness affected students' concurrent evaluation of class interest in a traditional format class, we asked students taking an undergraduate physics class to describe their real-life conversations at several points in the semester, and rate their perceptions of listeners in these conversations and interest in the class. A physics class provides a more stringent test of the SRM model's hypothesis because social concerns are not inherent to the class structure or topics, and the topics being discussed in physics (e.g. thermodynamics,

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rotational motion, magnetism) are not a common source of conversational material (especially compared to examples of conversations in Study 1, such as attitude change and sales techniques, forming impressions of others, self-esteem). In this context, we tested whether peer responsiveness would predict students' evaluation of interest during the semester, controlling for baseline interest reported at the beginning of the semester.

We also tested whether the content of what is being discussed changes effects of peer responsiveness, as a potential boundary condition of the model. To determine whether effects of peer responsiveness on class interest were specific to conversations about class topics, we asked students to report on conversations about exams as well as about topics. We reasoned that in conversations about exams, social feedback communicated through listening behavior would concern one's competence, rather than interest. Compared to conversations about topics, therefore, feedback during conversations about exams may influence evaluation of competence, or the importance of competence, rather than interest.

4.1 Participants

We recruited 77 students (40 male, 37 female) enrolled in a 'Introductory Physics for Scientists' class (restricted to physical science or engineering majors) at the University of Utah. Seventy-seven percent (n = 59) completed over 80% of the study measures throughout the semester, and these students comprise the final sample. There were no significant differences on any study variables between students who completed more or less than 80% of the measures. Only 2 students (one male, one female) of the original 77 dropped the class, and both did so early (before taking the first exam). The sample of 59 students is 56% male, 73% European-American, and *M* age = 20.6 years old (*SD* = 3.3). The breakdown of students by class status is 29% Freshmen, 30% Sophomore, 23% Junior, and 15% Senior. Participants were compensated for

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their time with $5 for each completed survey, and were entered in a drawing for a $100 gift certificate to the University Book Store if they completed all 6 surveys.

4.2 Pilot study to identify target topics and exams

One year before the present study, students (n = 224) in the same physics class rated how interesting, valuable, and difficult each course topic and exam was. From these data, we identified two class topics that were rated above the midpoints on interest, value, and difficulty. These topics were Newton's laws and mechanics covered in week 4 of the semester and gravity and Kepler's laws covered in week 12. After identifying the two interesting topics which we would target in the main study, we identified 2 exams that occurred at similar times of the semester as the topics, and which were also rated above the midpoint of difficulty. These criteria are important because if there are differences in conversation effects as a function of talking about interesting topics or exams, we can be more confident that the differences are not due to reporting at different points in the semester or differential difficulty. Therefore, we focused on these two identified class topics and two exams when we asked students to report their conversations.

4.3 Procedure

At the beginning of the semester we recruited participants from the class by asking for volunteers to participate in "a semester-long study about college students' academic-related experiences in and outside of the classroom." All data were collected online, so after participants were recruited they completed the baseline measures for the study. They were notified when to log-on each time to complete another round of measures, and were asked to complete the measures within two days (all participants did complete the measures in this time).

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We scheduled data collection for weeks following the two most interesting class topics and following two exams identified from the pilot study. A week after each pre-selected event (topic and exam), participants reported whether they tried to talk to anyone about it, who they tried to talk to, and their perceptions of the other's reaction. Students were able to report as many conversations as they could recall throughout the week. Next, we asked them to report their current perceptions of the class. At the end of the semester, students reported their final perceptions of class interest and their final class grade.

4.4 Measures

Baseline measures. During the first week of class we asked students to report baseline measures of interest ("How interesting do you think you will find this class?") and perceived competence ("How well do you think you will perform in this class?"). Previous research has illustrated the utility of single item measures of interest and self-regulated learning processes for educational studies, demonstrating high correlations between single-item and composite measures of interest (Ainley, 2006; Ainley & Patrick, 2006). Single item measures of interest and other class perceptions were chosen in this study because of time limitations, as students were expected to spend a considerable amount of time reporting on conversations and perceptions of those conversations, and piloting suggested that we cut initial items to minimize demands on students. Because we were asking students to rate the same dimensions multiple times during the semester and for multiple conversation topics, we repeated the measures throughout the semester.

In addition to the baseline measures and demographics, students also completed the Relational Interdependent Construal Scale (Cross et al., 2000) that was included in Study 1 as a measure of interpersonal orientation.

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Post-event measures. Students reported on conversations (and subsequent class perceptions) following two class topics and two class exams. A week after each of the 4 events, we asked participants whether they tried to talk to anyone about the topic/exam. For each attempted conversation, participants described the conversation and their relationship to the person they tried to talk to. Students were asked eight questions (Cronbach's $\alpha = .90$) about how well the other person(s) was listening in the conversation, drawn from previous research (e.g., Pasupathi & Rich, 2005; Thoman et al., 2007). An example item is "How responsive was this person when you tried to talk to them about the topic/event?", rated on a 1 (not at all responsive) to 7 (very responsive) scale. Originally, this scale used 12 items, but 4 items were removed because they were medium- specific (e.g., "Did the listener make eye contact?") and many of the reported conversations did not occur face-to-face (e.g., they occurred via phone, email, and instant message conversations). The 8 item scale, therefore, reflects only questions of that were relevant regardless of the medium through which the conversation took place. Students were also asked three questions (Cronbach's $\alpha = .89$) about their perceptions of the extent to which the other person(s) agreed with them during the conversation. An example item is "How much did the person you tried to talk with agree with your opinion about the topic/event?", rated on a 1 (not at all) to 7 (very much) scale.

After asking participants about their conversations, we asked them to report their current perceptions of the class. These questions, all rated on 1 (not at all) to 7 (very much) scales, included class interest, perceived competence (the same questions as asked in the baseline questionnaire) and competence value ("How important is it for you to do well in this class?") (the baseline measure of competence value was missing from the initial survey due to a clerical error). Preliminary analyses indicated no differences as a function of the specific topic or exam

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students reported about. Thus, to address potential concerns about reliability of these single-item measures, we averaged students' responses across topics and across exams.

Final study measures. At the end of the semester, we measured students' final interest in the class, using the same item asked during the semester, worded to reflect students' perceptions of the class that had just ended. Participants also reported their final grade in the class.

4.5 Results

Because participants were able to report multiple conversations for each given event, we created a count variable for the number of conversations reported and an average for ratings of peer responsiveness across reported conversations for each person, separately for conversations about topics and conversations about exams. This allows us to test, for example, the effects of average perceived peer responsiveness when talking about topics or exams.

Table 2 presents the descriptive statistics and Pearson correlations among the study variables, including number of conversations and ratings of listener responsiveness for conversations about interesting class topics and conversations about exams, averaged ratings of class interest, competence valuation, and perceived competence following conversations about interesting class topics and conversations about exams, as well as final class interest, final class grade, and interpersonal orientation.

4.5.1 How often do students report talking about these events and how do they perceive listeners?

A total of 254 conversations were reported by the 59 participants. Participants reported an average of approximately two conversation following class topics and two conversation following exams, though conversations for any single event ranged from 0 to 5. Students talked primarily (approximately 88% of the conversations) with peers (74.7% friends or significant

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others, 13% non-friend classmates), and occasionally with parents (6.9%) or instructors (6.4%). This pattern was the same for conversations about topics and conversations about exams.

Overall, participants perceived their conversation partners to be very responsive. With potential scores ranging from 1 (Not at all) to 7 (Very much), listener responsiveness was rated above the scale's neutral point for conversations about interesting class topics (M = 5.45, SD = .65) and exams (M = 5.42, SD = .59). Because there were no differences in number of conversations or in ratings of peer responsiveness as a function of which topic or of which exam students discussed, we combined across the two topics, and again across the two exams.

4.5.2 Baseline class perceptions, individual differences in interpersonal orientation, and gender differences

No baseline measures or individual differences in interpersonal orientation were significantly correlated with the number of conversations or responsiveness in those conversations, r's range from -.04 to .12 (ps> .10). Thus, expectations about the class experience and individual differences in interpersonal orientation did not predict the number of conversations students had about the two topics or the two exams, or the perceived responsiveness of peers when they had these conversations.

In addition, we tested for gender differences in baseline measures of class perceptions (because students were taking a stereotypically male Physics class). Men (M = 6.03, SE = .09) reported greater expected perceived competence in the class than did women (M = 5.60, SE = .18), $t(56) = 2.26$, p = .03. There were no gender differences for ratings of expected class interest.

Because there were gender differences in expected competence at baseline, we examined whether this baseline differences indirectly predicted perceived competence during the semester.

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However, no significant indirect effects of gender were found, and including baseline measures in analyses did not change effects of conversation variables. Thus, baseline gender differences in perceived competence did not account for effects during or at the end of the semester.

There were also no gender differences in the number of reported conversations or ratings of listener responsiveness during the semester, no matter whether the conversations were about class topics or exams. Furthermore, when we tested whether effects of peer responsiveness during the semester were moderated by gender or interpersonal orientation, we found no significant effects involving either variable. Therefore, analyses involving gender or interpersonal orientation are not discussed further.

4.5.3 Analysis model for peer responsiveness on class perceptions

To examine the effects of peer responsiveness on students' immediate class perceptions (class interest, competence value, and perceived competence), each was individually regressed on a model that included the number of conversations, ratings of peer responsiveness, and the interaction between the two, as well as the relevant baseline measure (with the exception of the model for competence value, where the baseline measure was not assessed). All model predictors were centered. Number of conversations and its interaction with ratings of peer responsiveness were included to distinguish effects due to how much students talked with others from effects due to their perceptions of others' responsiveness. Baseline measures were included as covariates.

4.5.4 Does peer responsiveness when talking about interesting topics predict class perceptions?

Table 3 presents the regression results for predicting class perceptions following conversations about interesting class topics. When we regressed averaged class interest during

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the semester on the model, perceived listener responsiveness significantly predicted higher ratings of interest in the class during the semester. Neither the number of conversations about these topics nor the interaction of listener responsiveness with the number of conversations was individually significant.

When we regressed averaged competence value and perceived competence (separately) during the semester on the model, no individual predictors were significant.

4.5.5 Does peer responsiveness when talking about exams predict class perceptions?

Table 4 presents the regression results for predicting class perceptions following conversations about exams. When we regressed averaged post-exam ratings of class interest during the semester on the model there were no significant effects except for baseline interest.

However, when we regressed averaged competence value on the model, peer responsiveness in conversations about exams marginally predicted greater competence valuation for the class. Competence value was not significantly predicted by the number of conversations or the interaction term.

4.5.6 Supplementary Analysis

Although the primary aim of this study was to examine effects of responsiveness on immediate evaluations of interest, to compare results to those in Study 1 we also examined effects on students' interest at the end of the semester. We examined direct effects of responsiveness on final class interest. We used hierarchical regression to predict students' ratings of final class interest. In Step 1 we regressed final class interest onto a model including number of conversations and responsiveness to conversations following class topics (and centered initial class ratings of interest as a covariate). In step 2 we added (centered) post-topic ratings of class interest. Results suggest that in Step 1 the overall model was not significant ($F(3, 48) = 1.00$, $p =$

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.43, R^2= .11) and there were no significant effects, including no direct effect of peer responsiveness (β = .20, t(48) = 1.21, p = .23). However, in Step 2 the overall model was significant (F(5, 46) = 13.93, p< .001, R^2= .64), and post-topics ratings of class interest (β = .80, t(46) = 7.82, p < .001) was the only individually significant predictor. Even though peer responsiveness did not have a significant direct effect on final class interest, as it did in Study 1 when responsiveness was measured as an average across the semester, we tested whether peer responsiveness during the semester indirectly affected final class interest through its effect on interest during the semester. Mediation can exist without a significant direct relationship between the antecedent variable (x) and outcome variable (y), particularly when there are large differences in the temporal measurement distance between x and m (the mediating variable) compared to m and y (MacKinnon & Fairchild, 2009). A Sobel test indicated a significant indirect effect of peer responsiveness via post-topic ratings of class interest on final class interest (z = 2.32, p = .02).

4.5.7 Potential alternative explanations

Is effect of peer responsiveness distinct from effect of perceived agreement? We regressed class interest onto a model including peer responsiveness, the number of reported conversations, and the interaction between these variables, as well as baseline interest, and added as a predictor perceived agreement (all predictors were centered). We repeated this analysis for conversations about exams, predicting competence value. Results showed that agreement in conversations (both about class topics and exams) did not significantly predict any class perceptions (ps > .10) and previously reported results for peer responsiveness were unchanged.

Is effect of peer responsiveness distinct from initial competence in the class? Prior abilities or perceptions of greater competence could be related with both interest and the quality

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of peer interactions that elicit responsiveness. We included the baseline measure of perceived competence at the beginning of the semester to test this possibility (no measure of actual competence was available). We repeated the regression analyses for predicting each class perceptions following conversations about topics and exams, respectively, but this time included initial perceived competence (centered) as a predictor. We also repeated the analysis for predicting final class interest, including initial perceived competence (centered) as a predictor. Initial perceived competence was not a significant predictor in any of these models (*p*s > .10), and the previously reported effects remained unchanged.

Is the effect of post-conversation interest on final class interest distinct from performance? As in Study 1, to test whether the effect on final class interest was related to performance, we repeated the regression analysis for final class interest, but this time included class grade (centered) as a predictor. Class grade significantly predicted final class interest (β = .31, $t(37) = 2.69$, $p = .01$) but the effect of post-topic interest remained unchanged.

4.6 Discussion

Listener responsiveness to conversations about interesting class topics (but not exams) predicted students' concurrent evaluation of interest in the class, over and above baseline interest measured at the beginning of the semester. Although data are correlational, these findings provide further support for the SRM model's prediction that listener responsiveness influences interest (rather than the other direction) because baseline interest was controlled. Further, effects on interest were not short-lived, as listeners indirectly affected interest at the end of the semester via their effect on interest during the semester. These results suggest that listener responsiveness in naturally occurring conversations about class topics, which primarily occurred between friends and were not tied to class requirements, influenced students' interest in a Physics class.

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In contrast to when conversations centered around class topics, in conversations about exams responsiveness tended to influence the extent to which students valued their competence, but did not directly influence interest. Whether peer responsiveness influences the evaluation of interest or competence value depends on the subject being discussed. This is the case even though the results did not depend on students perceiving listeners as agreeing with their views. This finding suggests that interpreting social feedback when talking about exams may be one way that students gauge the extent to which peers value achievement in this domain, which has been shown to influence students' motivation toward school (Urdan & Maeher, 1995). Indeed, competence value following exams was also correlated with class interest following exams, so listener responsiveness in these conversations could be indirectly related to class interest via competence value.

As in Study 1, these data also ruled out a number of potential alternative explanations for results. Like Study 1, effects of peer responsiveness could not be accounted for by perceived agreement in conversations or by class performance. In addition, effects could not be accounted for by controlling for baseline measures of class interest or perceived competence.

5. General Discussion

Across two different class subjects and learning contexts, the degree to which peers listened responsively when students talked about class topics predicted subsequent evaluation of interest in the class. Similar to experimental findings of Pasupathi and Rich (2005) and Thoman, et al. (2007), results were not accounted for by students perceiving listeners as validating their opinions, or by overall levels of social interaction. Results support the SRM model's prediction that the extent to which peers appeared to actively listen influences students' evaluations of their own interest in the class, both when conversations were part of a structured class (Study 1) and

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when they were not (Study 2), as well as when testing concurrent (Study 2) and cumulative (Study 1) relationships with students' evaluations of interest.

Results also suggest that, in addition to interest, students' evaluation of competence value can be influenced by feedback from others after the experience had taken place. In Study 2, greater perceived responsiveness during conversations about interesting class topics predicted greater subsequent interest, whereas peer responsiveness during conversations about exams tended to predict greater subsequent valuation of competence in the class. Although it was perceptions of listening behavior in these conversations, not the number of conversations or agreement, that predicted students' subsequent class perceptions, the content of what was being discussed changed the motivational effects of peer responsiveness.

These potentially subtle effects of peer responsiveness might be difficult to identify in a typical classroom context, particularly because the peers in question might not be a part of that class (Study 2). In this respect, the phenomenon generalizes beyond collaborative learning contexts, in which the social interactions involve peers working on a common project. However, variations in peer responsiveness within collaborative groups may influence the activity experience. For example, Volet, Summers and Thurman (2008) videotaped collaborative learning groups among veterinary students. The group that illustrated high levels of engagement in learning also demonstrated higher levels of what Volet and colleagues termed "positive shared emotions." In particular, when talking about a case study, students used humorous examples to illustrate points, and making the experience more enjoyable appeared to motivate prolonged co-regulation in the construction of new knowledge. The present results suggest that the positive evaluation of the experience may, in part, rest on group members appearing to be actively listening (which, in turn, may be more likely when the group is actively engaged in the topic).

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Thus, learning contexts and activities could be constructed in ways that encourage peers to be responsive, and encourage students to talk about topics in ways that might encourage active listening. Many collaborative, jigsaw, and peer tutoring/ mentoring activities may already be facilitating greater student interest through peer responsiveness (if/when students in these groups are encouraged to listen more responsively), even though the activities may have been designed to focus on agreement and support of content (which did not account for effects in these studies) rather than responsiveness. Results of Study 1 suggest that responses matter even when they are a structured and graded part of the class. This point is encouraging because listening behavior can be encouraged through explicit class requirements without losing effectiveness.

Despite their strengths, these studies are not without limitations. First, although we describe causal process theoretically, we cannot infer causality because the data are correlational and the studies lack random assignment and experimentally-controlled manipulations. Viewed in the context of previous lab studies (Pasupathi & Rich, 2005; Thoman et al., 2007), however, this limitation is less problematic because the aim of the present studies was to determine whether or not previous experimental results were limited to novel lab activities. In addition, although the small samples in both studies were not problematic for tests of primary hypotheses, low statistical power could have influenced our ability to detect relatively smaller effects. It is possible, for example, that this limitation could have masked potential moderating effects of individual differences or gender, or weakened the tests of talking about exams in Study 2. That we found a consistent effect of responsiveness on interest across studies despite the relatively small samples suggests that it is a reliable effect. Third, although research on self-regulated learning processes has supported the use of single item measures (Ainley, 2006; Ainley & Patrick, 2006) the class perception measures in Study 2 were limited to single items. We

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combined reports of post-event ratings to increase reliability, but both the baseline measures and final measure of interest in Study 2 rely on single items. However, the relationship between peer responsiveness and final class interest was similar when using the multiple item measure of class interest in Study 1 and the single item measure in Study 2, and these results are similar to previous findings obtained in the lab. Thus, it is unlikely that the results from study 2 can be attributed to the use of single item measures.

Implications and future directions

The present findings have a number of theoretical implications for the SRM model. First, the findings support the model's central conceptualization of motivation as a dynamic process that unfolds and is regulated over time, with interest as a critical component of that ongoing process. However, previous research based on this model has tended to focus more on how the social context influences interest in terms of congruence with interpersonal goals (e.g., Morgan Isaac, & Sansone, 2001; Isaac et al., 1999) and in terms of support for interpersonal strategies while working on a task (e.g., Isaac et al., 1999). The current research confirms suggestions from recent studies (Pasupathi & Rich, 2005; Thoman et al., 2007) that the social context can influence the interest experience even after the activity is completed via listeners' responsiveness, and extends these findings to students' actual class experiences over the course of a semester.

The present findings also suggest a number of directions for potential expansion of the model. First, we identified one mechanism, listener responsiveness, that influences the evaluation of interest. Are there other features of the social context that can do so as well? One possibility is the opportunity for social comparison. For example, previous research in education has tended to examine social comparison processes in terms of evaluating one's competence

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(Dijkstra, Kuyper, van der Werf, Buunk, & van der Zee, 2008). It is possible that social comparison processes may also be used when students' are evaluating their interest, comparing their experiences to other students (or at least, the perceived interest experience of other students). This possibility suggests that constraints on whether and how students express interest in academics generally, or in specific domains, might be an important factor to explore (e.g., Hannover & Kessels, 2004; Kessels, 2005; Rommes, Overbeek, Scholte, Engels, & de Kemp, 2007).

In addition, it will be important to examine how this self-regulatory process can become integrated with individuals' motivation to belong or feel accepted. For example, research suggests that feeling that one belongs in a given educational domain can influence choices to select and persist in those domains, because of implications for ability (e.g., Good, Rattan, & Dweck, 2012) or fit with stereotypes (e.g. Cheyan & Plaut, 2010). When features of the social context, including both social beliefs (e.g., stereotypes) and social interactions (e.g., conversations), bolster (or make one uncertain about) her or his belonging there may be positive (or negative) consequences for interest or goals-defined motivation (Patrick, Ryan, & Kaplan, 2007). Over time, effects of the social context on academic persistence and choices may occur via reciprocal relationships between belonging, achievement goals, and interest (Anderman & Kaplan, 2008). Alternatively, when one's sense of belonging is uncertain or threatened, efforts to regulate this motivation (Pickett & Gardner, 2005) may indirectly affect goals or interest. The SRM model has emphasized the experience and regulation of interest during activity engagement, but expanding the model to incorporate the self-regulation of belonging motivation within this self-regulatory process may be a fruitful theoretical and empirical direction for future

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work. Doing so would further clarify the various related routes through which social contexts and interactions can influence students' interests and choices over time.

In addition, results from Study 2 suggested that different content of the conversation (i.e., exams or topics) might influence goals-defined and experience-defined motivation differentially, or at different rates. Given that these different motivations can lead to students engaging learning materials in somewhat different ways (e.g., Sansone et al., 1992), it will be important to understand how conversation content may moderate the effects of listener responsiveness beyond the difference between exams and topics. For example, if content involves what one can do with the knowledge, or drifts to interesting topics that are unrelated to the initial topic, listener responsiveness might impact the process in different ways (Harackiewicz, Rozek, Hulleman, & Hyde, in press; Husman, Derryberry, Crowson, & Lomax, 2004).

Another useful direction for future research will be to examine further boundary conditions of this process through which conversations affect interest across student age ranges and stages of interest development. Although the SRM model has emphasized changes in motivation over time, the model has not typically identified how individuals' unique developmental stages influence the model's predictions across individuals. Others' research would suggest, however, that the present findings may differ across specific developmental stages. For example, children as young as ten years old can identify when someone is not listening (Imhof, 2003), but the age at which children begin interpreting this (lack of) social feedback as meaningful is unknown. In addition, interest may be more likely to be influenced by others during adolescence, when students are focused on identity formation (Renninger, 2009); but it is also possible that anyone trying a new activity may have their interest influenced by

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others. Conversely, peer responsiveness within a given situation may have less influence when a person has a well-developed individual interest that is more resilient over time and situation.

Future work may also address the implications of when students come from backgrounds (e.g., culture, language, disabilities, etc.) that might make peers (or teachers) less likely to listen to them. Students who are stigmatized in education, generally or in specific domains, experience various forms of social exclusion (Major & Eccleston, 2005). If peers are less likely to listen responsively during conversations to stigmatized students, it may function as another barrier to interest development for students from underrepresented or stigmatized backgrounds.

Finally, beyond the theoretical directions, designing and investigating activities that promote interest development through conversations following classroom activities would be a useful direction for future educational research. A number of potentially effective classroom activities for traditional format classes may be developed, and many existing activities may even be promoting interest through these processes without knowing it. Instructors of online (or hybrid) classes, in particular, can promote interest through discussion boards, by encouraging greater responses to others by using creative grading procedures and requirements (Study 1). Regardless of class format, by better understanding the subtle forms of social influences on interest, educators can shape learning contexts and activities to encourage peers to be responsive following an activity experience, thereby promoting greater interest development of students through positive social interactions.

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Table 1
Pearson Correlation Matrix and descriptive statistics for Study 1 variables.

Variable	1	2	3	4	5	6	7
1. Class Interest	-						
2. Others' Responses (to Participant)	.30*	-					
3. Responses to Others	.12	.14	-				
4. Original Posts	.05	.63*	.01	-			
5. Others' Agreement	.16	.10	-.08	.13	-		
6. Interpersonal Orientation	.01	.14	.15	.09	.30*	-	
7. Class Grade	.13	.43*	.26*	.35*	-.08	-.11	-
M	12.02	1.05	1.08	.62	5.31	58.34	88.34
SD	6.24	.67	.58	.27	1.06	11.66	8.02
Range	3-21	.07-3.21	.13-4.0	.07-1.02	1-7	11-77	0-100

Note: * $p < .05$. N's range from 63-70; Others' Responses, Response to Others, and Original Posts are shown as weekly averages across the length of the course, and the ranges for these variables represent the observed range of each average score.

Table 2
Pearson Correlation Matrix and descriptive statistics for Study 2 variables.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
Conversations Variables													
1. Average number of conversations about class topics	-												
2. Average number of conversations about exams	.41*	-											
3. Responsiveness to conversations about class topics	.15	.04	-										
4. Responsiveness to conversations about exams	.13	.19	.33*	-									
Post-topic class ratings													
5. Interest	-.06	.10	.31*	.11	-								
6. Competence Value	.06	.12	.10	.10	.42*	-							
7. Perceived Competence	.04	.28*	-.11	-.12	.18	.17	-						
Post-exam class ratings													
8. Interest	-.01	.09	.16	-.01	.60*	.13	.19	-					
9. Competence Value	-.02	.09	-.09	.24†	.18	.35*	.09	.30*	-				
10. Perceived Competence	.07	.29*	.01	-.07	.19	.09	.85*	.31*	.10	-			
Final class ratings													
11. Final Class Interest	-.11	-.01	.18	-.09	.78*	.10	.19	.62*	-.01	.25†	-		
12. Class Grade	-.05	.23	-.37*	-.19	-.12	-.05	.84*	.06	.01	.73*	.05	-	
Individual Difference Measure													
13. Interpersonal Orientation	.05	.02	.01	.11	-.10	.05	-.12	-.32*	-.02	-.19	-.10	.09	-
M	2.14	2.19	5.45	5.42	5.08	6.36	4.68	4.60	6.18	4.40	4.96	2.73	55.99
SD	1.5	1.09	.65	.59	.99	.66	1.29	1.43	.95	1.43	1.44	1.03	10.78
Range	0-10	0-10	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	1-7	0-4	11-77

Note: † $p < .10$; * $p < .05$. N's range from 45-59.

Table 3
Regression results for predicting class perceptions following conversations about interesting class topics, Study 2.

Post-topics Outcome Variable	***β***	***t***	***df***	$F_{fullmodel}$	R^2
Class Interest			4, 51	3.02*	.20
Listener responsiveness	.32	2.33*			
Number of conversations	-.22	-1.40			
Interaction of listener responsiveness x Number of Conversations	-.01	-0.02			
Baseline interest	.14	1.01			
Competence Value			3, 53	0.19	.01
Listener responsiveness	.10	0.70			
Number of conversations	.02	0.15			
Interaction of listener responsiveness x number of conversations	-.01	-0.02			
Perceived Competence			4, 52	8.95*	.42
Listener responsiveness	-.06	-0.56			
Number of conversations	-.05	-0.45			
Interaction of listener responsiveness x number of conversations	.15	1.23			
Baseline perceived competence	.62	5.71*			

† $p < .10$; * $p < .05$

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Table 4
Regression results for predicting class perceptions following conversations about exams, Study 2.

Post-exams Outcome Variable	***β***	***t***	***df***	$F_{fullmodel}$	R^2
Class Interest			4, 51	0.77	.06
Listener responsiveness	.14	0.96			
Number of conversations	-.15	-1.04			
Interaction of listener responsiveness x Number of Conversations	-.09	-0.63			
Baseline interest	.29	2.21*			
Competence Value			3, 52	1.72	.09
Listener responsiveness	.25	1.81†			
Number of conversations	-.14	-1.02			
Interaction of listener responsiveness x number of conversations	.12	0.87			
Perceived Competence			4, 51	3.70*	.24
Listener responsiveness	-.12	-0.95			
Number of conversations	.10	0.81			
Interaction of listener responsiveness x number of conversations	-.09	-0.73			
Baseline perceived competence	.48	3.64*			

Note: Baseline measures included in analyses are not presented in the table.
† $p < .10$; * $p < .05$

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Figure Captions

*Figure 1.*Self-Regulation of Motivation Model (based on Sansone & Harackiewicz, 1996; Sansone & Smith, 2000; Sansone & Thoman, 2005), with highlighting (in bold) the route through which social/interpersonal feedback can influence the evaluation of interest.

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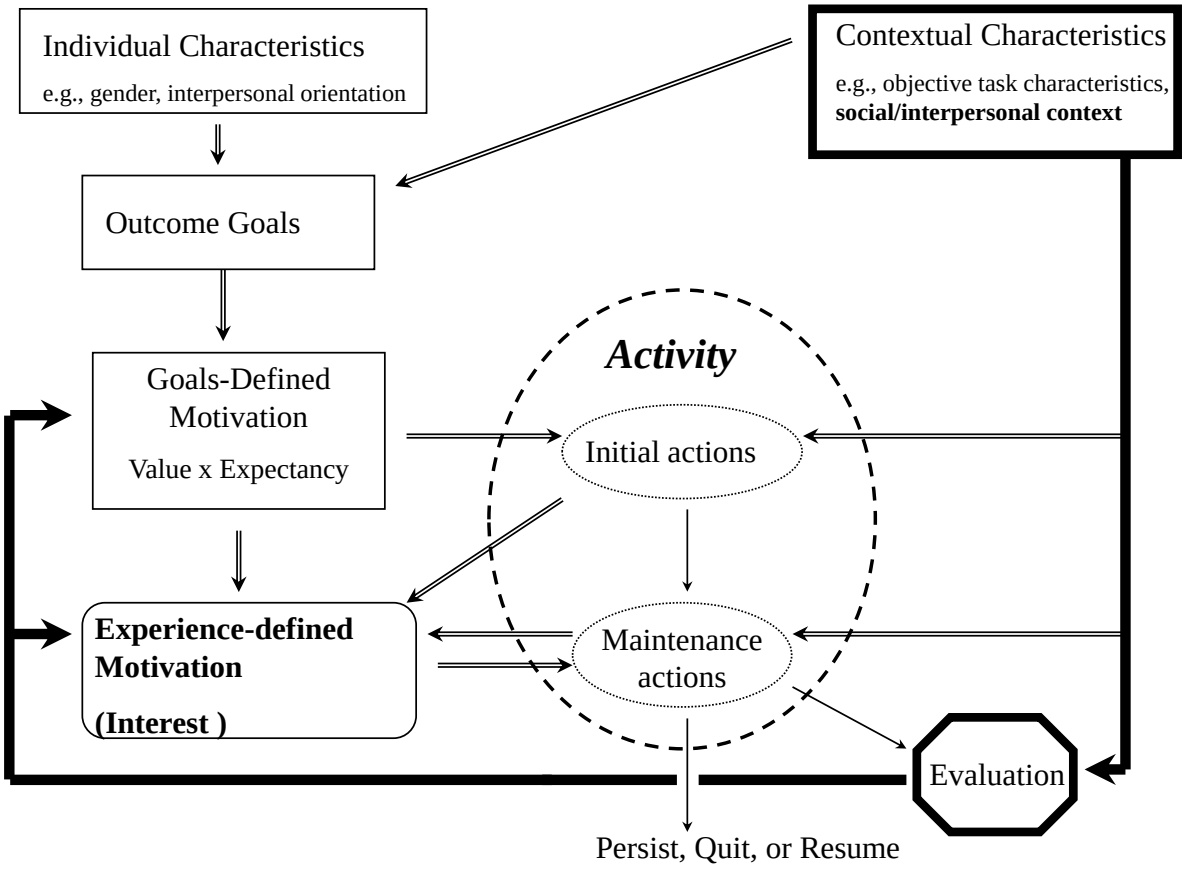

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