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Crossover of Flow from Music Teachers to Students: The Role of Teachers' Work Orientations

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The present study examined the role of work orientations in music teachers' experiences of flow in teaching, and the crossover of flow from teachers to their students. The sample comprised 135 music teachers and 484 students from 7 different music schools in Croatia. Based on the theory of work orientation, flow theory, and emotional contagion theory, it was hypothesized that seeing one's job just as the source of material benefits leads to less frequent flow in teaching, while orientation to work as a calling leads to more frequent flow in teaching, which in turn crosses over to students. Questionnaires for measuring work orientations and flow in teachers and students were applied. Data were analyzed using structural equation modeling and the model demonstrated an excellent fit. Practical implications of these results point to the importance of cultivating the calling orientation of teachers in order to facilitate their experience of flow in teaching and consequently the crossover of flow to students.

Key words: emotional contagion, flow in teaching, music students, music teachers, work orientations

Introduction

What is Flow?

Flow is defined as "a state in which people are so involved in an activity that nothing else seems to matter; the experience is so enjoyable that people will continue to do it even at great cost, for the sheer sake of doing it" (Csikszentmihalyi, 1990, p. 4). There are several necessary preconditions for a person to enter into a flow state that include autonomy, clear rules, feedback on the progress being made, and the perceived balance of high challenges and high personal skills (Csikszentmihalyi, 1975/2000).

Originally, flow was researched in leisure activities because these activities are freely chosen and give a chance for creative expression

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and growth of personal skills (Csikszentmihalyi, 1975/2000). However, people also experience flow in non-leisure activities, such as work (e.g., Engeser & Baumann, 2016; Salanova et al., 2006) and an educational setting (e.g., Bakker et al., 2017; Ljubin-Golub et al., 2018), which are not freely chosen but are usually obligatory.

Flow in an Educational Setting

Flow in educational settings has been researched both in students and teachers. It was found that flow experienced by students is related to various positive outcomes such as higher student engagement (for a review, see Shernoff & Csikszentmihalyi, 2009), higher student performance in school and college (Engeser et al., 2005; Ljubin-Golub et al., 2016), higher psychological and physical health (Steele & Fullagar, 2009) and higher well-being (Rijavec et al., 2016; Rijavec & Ljubin-Golub, 2019).

There is evidence that teachers rather frequently experience flow at work (Bassi & Delle Fave, 2012b; Meijer et al., 2009; Wang, 2022), especially during teaching in the classroom and preparing for lessons. In the aforementioned studies, the percentage of teachers who frequently experience flow in their work varied between 50% and 63%. Teachers of music also experience flow while teaching music (Bakker, 2005; Kang, 2023; Loepthien & Leipold, 2021).

Positive consequences of flow in teaching are numerous, including task interest, and job performance (e.g., Chu & Lee, 2012). Flow is also related to higher subjective well-being (e.g., Asakawa, 2010), psychological well-being (Bassi et al., 2013), and flourishing (Jurčec, 2019) as well as to higher achievement of students (Engeser & Rheinberg, 2008; Ljubin Golub et al., 2016).

From Teacher to Students: Contagious Flow

Although flow is typically researched as an individualistic phenomenon, in recent years, there has been growing interest in flow that emerges during group situations. Group activities such as sport activities or group musical performances may induce experience of shared, i.e., collective flow in which all members of the group are being absorbed by the activity and shared emotions (Walker, 2010; Zumeta, 2016). In this context, there is also evidence that teacher flow and student flow may be interdependent (Lloyd & Smith, 2006). Chan (2009) points out that high enjoyment in teaching which is characteristic of flow, including enthusiasm and passion, may become contagious for students as well.

There are two possible theoretical frameworks that could explain why flow is not only an individualistic phenomenon but can be influenced by others in the environment.

First, the social comparison theory (Festinger, 1954) claims that individuals turn to environmental cues (including other people) to determine how to think and feel. During this process, they compare themselves with similar others (Festinger, 1954; Tesser et al., 1988) but also with those in higher status positions (Bakker et al., 2007). The same conclusion stems from the principle of social validation (Cialdini, 2009), and studies on collective flow (Walker, 2010) also suggest the importance of others when individuals try to decide what they believe or feel about an event. According to the emotional contagion theory (Hatfield et al., 1994; Hatfield et al., 2014), people's emotions are influenced by the emotions of others and they have a tendency to synchronize with each other. From this point of view, emotional contagion is defined as the tendency to take on the sensory, motor, physiological, and affective states of others (Hatfield et al., 1994). In other words, there is a crossover of both facial expressions, vocalization, postures, movements, and emotions. Studies of crossover in teachers found the crossover of burnout symptoms (Bakker & Schaufelli,

2000; Bakker et al., 2007). There is also one study that demonstrates positive crossover, i.e., the crossover of the flow experiences of music teachers to flow experienced by students (Bakker, 2005).

Based on these theories and the aforementioned studies, it can be expected that in the classroom students look both to other students and the teacher for clues about their own flow experiences.

Work Orientations as Antecedents of Flow in Teaching

From the above, it is evident that the experience of flow has positive academic consequences for students, and that flow can "transfer" from the teacher to the students. Therefore, it is important to investigate the potential antecedents of flow in teaching. Studies that addressed these antecedents are scarce. Some of them pointed to elements of the school environment such as resourceful working conditions (Bakker, 2005), or behavior of school principals (Basom & Frase, 2004) while others stressed characteristics of teachers such as intrinsic life aspiration (Olčar et al., 2019) or academic optimism (Beard & Hoy, 2010). One study (Salanova et al., 2006) found reciprocal relations between personal (i.e., self-efficacy beliefs) and organizational resources (including social support, climate, and clear goals) and flow. Recently, work orientations have also been proposed as one of these possible antecedents (Jurčec, 2019).

Bellah, Madsen, Sullivan, Swidler, and Tipton (1986) first suggested that people tend to frame their relationship to work in three different ways or work orientations. For some, it is "just a job", a source of material benefits, and not a central part of their identity (job orientation). Others view their work as a career and are oriented toward professional achievement, advancement, and prestige (career orientation). Finally, some employees consider their work as a calling. Work is the central part of their identity and they view it as fulfilling, purposeful, and socially valuable (calling orientation).

Having a calling is related to positive outcomes in various professions, including teaching. Teachers with a calling orientation are more enthusiastic (Buskist et al., 2005) and more caring about their students' well-being (Bullough & Hall-Kenyon, 2012).

Teachers who view their work as a calling have higher levels of work meaningfulness and engagement (Rothmann & Hamukang'andu, 2013), job satisfaction (Gradišek et al., 2020), and well-being (Jurčec, 2019; Jurčec & Rijavec, 2015; Rijavec et al., 2021; Wrzesniewski et al., 1997). Job orientation consistently showed a negative relationship with positive outcomes such as life and work satisfaction. Results for career orientation are inconsistent showing mainly no or very low relationship with the aforementioned variables (Gradišek et al., 2020; Jurčec & Rijavec, 2015).

Rare studies on work orientations and flow in teachers showed similar patterns of results. Some studies have found a positive relationship between calling orientation and flow, and a negative relationship between job orientation and flow while results on career orientation are inconsistent showing no or weak negative relationship with flow (Jurčec, 2019; Ivanković et al., 2024). In a study conducted by Hall and Chandler (2005), employees who saw their work as a calling were more inclined to explore and discover everything important to their work, which may lead to a more frequent state of flow.

Based on the research mentioned above, two aims of this study were defined. The first was to examine work orientations as antecedents of teachers' flow. The second was to

explore whether students are more likely to experience flow if their teacher is frequently in a state of flow as well.

The following hypotheses were set:

Hypothesis 1a: Music teachers' calling orientation is positively related to flow in teaching musical instruments.

Hypothesis 1b: Music teachers' career orientation is not related to flow in teaching musical instruments.

Hypothesis 1c: Music teachers' job orientation is negatively related to flow in teaching musical instruments.

Hypothesis 2. There is a positive relationship between the experience of the flow of music teachers in teaching musical instruments and the flow experiences of their students in playing these instruments.

Method

Procedure and Participants

The sample comprised 135 music teachers (59% female) with an average of 18 years of professional work (*SD* = 11.2) ranging from 1 to 43 years, and 484 students (58.5% female), aged from 14 to 20 years (*M* = 15.7 years, *SD* = 1.67). They attended seven secondary music schools situated in Zagreb and the surrounding area in Croatia. Teachers worked individually with one to 11 students who were learning to play 17 different instruments. The teachers and the students were asked to fill in paper-pencil questionnaires after a regular lesson. No participant had to be excluded from the sample for any reasons. The study was conducted following the Ethical Code of Research with Children in Croatia (Ajduković & Keresteš, 2020). Informed consent that included the study conditions and the confidentiality of data was obtained from teachers, parents, and students. Participation in the study was voluntary and anonymous.

Measures

Teachers filled in The *Work-Life Questionnaire* and *The Work-Related Flow Inventory* while The *Study-Related Flow Inventory* was given to students.

The *Work-Life Questionnaire (WLQ;* Wrzesniewski et al., 1997*)* includes three brief scenarios, which describe individuals who approach work as a Job (person A), a Career (person B), and a Calling (person C). Participants rated each scenario from 1 (not at all like me) to 4 (very much like me). Extracts from the scenarios (Wrzesniewski et al., 1997, p. 24):

Persons A (job orientation) work primarily to earn enough money to support their life outside their job. If they were financially secure, they would no longer continue their current line of work, but would rather do something else.

Persons B (career orientation) enjoy their work but do not expect to be in their current job five years from now. Instead, they plan to move on to a better, higher-level job. They have several professional goals for the future.

Persons C (calling orientation) consider work as one of the most important parts of their life. They are very pleased to be in this line of work. They tend to take work home and on vacations, too. They are very satisfied with work and feel good about it because they love it and think it makes the world a better place.

The Croatian version of the scale had been previously used in research (Jurčec & Rijavec, 2015; Rijavec et al., 2021) and demonstrated adequate congruent validity.

The *Work-Related Flow Inventory* (WOLF, Bakker, 2008) was used to measure flow at work and was adjusted for the specific work of teachers while teaching students to play musical instruments. The scale measures three dimensions of flow: absorption (4 items,

e.g., *When I am working, I think about nothing else*, modified to *When I am teaching a student to play an instrument, I think about nothing else*), work enjoyment (4 items, e.g., *I do my work with a lot of enjoyment*) and intrinsic work motivation (5 items, e.g., *When I am working on something, I am doing it for myself*). Participants assessed how often they experienced flow during teaching in the previous two weeks on a 7-point scale ranging from 1 (never) to 7 (always). Cronbach alphas in this study were .86 for absorption, .90 for enjoyment, and .78 for intrinsic motivation, which all indicate high reliability.

The *Study-Related Flow Inventory* (WOLF-S; Bakker et al., 2017) is a version of the Work-Related Flow Questionnaire (Bakker, 2008), adapted for an educational setting. In this study, we adapted the scale for a specific, music educational setting. It has thirteen items measuring absorption in study (4 items, e.g., *When I am learning, I forget everything else around me,* modified to *When I am playing an instrument, I forget everything else around me*), study enjoyment (4 items, e.g., *When I am learning very intensely, I feel happy,* modified to *When I am playing an instrument very intensely, I feel happy*), and intrinsic study motivation (5 items, e.g., *I get my motivation from the learning itself, and not from the rewards for it*, modified to *I get my motivation from playing the instrument itself, and not from the rewards for it*). Students were instructed to rate their flow experiences while playing the instrument during the class with the teacher. All items are rated on a 7-point scale, ranging from 1 (*never*) to 7 (*always*). The flow experience referred to the preceding two weeks. A higher score on the scale indicates a higher intensity of flow. In this study, Cronbach alphas of this modified version were .86 for absorption, .88 for enjoyment, and .89 for intrinsic motivation, which all indicate high reliability.

Results

Descriptive Statistics

Means, standard deviations, reliability coefficients, and correlations between all study variables are presented in Table 1.

Test of the Flow Model

The model (Figure 1) consists of three manifest variables for work orientations, and two latent variables: teachers' flow (absorption, enjoyment, intrinsic motivation) and students' flow (absorption, enjoyment, intrinsic motivation). The correlations between teachers' work experience and their flow level was non-significant (r = .16, p > .05), as well as between students' age and their flow level (r = .08, p > .05), and therefore these variables were not included in the model as covariates.

It was expected that music teachers' calling orientation has a positive relationship with their experience of flow in teaching (Hypothesis 1a), music teachers' career orientation is not related to flow (Hypothesis 1b), and music teachers' job orientation is negatively related to flow (Hypothesis 1c). In addition, Hypothesis 2 states that there is a positive relationship between teachers' flow and the flow of their students.

To test both hypotheses simultaneously, a structural equation modeling (SEM) analysis was performed with the AMOS 24 software package (Arbuckle, 2016). Several indices were used to evaluate the model: the normed chi-square (χ^2/df), the root mean square error of approximation (RMSEA), the comparative fit index (CFI), and the Tucker-Lewis Index (TLI). The following values were used for acceptable fit: a χ^2/df value below 5 (Wheaton et al., 1977); and RMSEA below .08; and a

TLI and CFI above .95 (Hair et al., 2010; Hu & Bentler, 1999).

Table 2 shows that the hypothesized model fits the data well (M1). All indicators had significant loadings on the intended factors. For flow among teachers, the factor loadings for absorption, enjoyment, and intrinsic motivation were .75, .92, and .75, respectively, and .79, .93, and .87 for flow among students. As expected, work-related flow in teachers had a positive relationship with their calling orientation (*b* = .34), a negative relationship with their job orientation (*b* = -.25), and no relationship with their career orientation (*b* = .07). Thus, the results confirmed Hypothesis 1. As expected, teachers' flow experiences at work were positively related to flow experiences in their students (*b* = .36), confirming Hypothesis 2.

To test the alternative hypothesis that work orientations also have a direct relationship with flow among students, three direct paths from work orientations to students' flow were included in the model. The results showed that this alternative model (M2) does not fit better to the data than the proposed hypothetical model (M1), Delta χ^2 (2) = 3.98, *n.s.* Moreover, path coefficients from work orientations to flow among students had the same, non-significant value of .10.

Another alternative model, hypothesizing that flow is "transferred" from the students to

Table 1 *Descriptive statistics and correlations of all variables for teachers (N = 135) and students (N = 484)*

		1	2	3	4	5	6	7	8	9
Work orient.	1. Calling	-	.28**	-.26**	.29**	.41**	.29**	.17*	.13	.13
	2. Career		-	-.18*	.16	.19*	.18*	.12	-.08	-.06
	3. Job			-	-.26**	-.29**	-.39**	-.22*	-.17	-.23**
Flow teachers	4. Absorption				-	.70**	.53**	.23**	.31**	.26**
	5. Enjoyment					-	.69**	.25**	.27**	.27**
	6. Motivation						-	.25**	.32**	.29**
Flow students	7. Absorption							-	.74**	.69**
	8. Enjoyment								-	.82**
	9. Motivation									-
	Mean	3.56	2.80	1.78	5.34	5.69	5.24	5.35	4.74	5.37
	Standard deviation	0.68	0.89	0.73	1.08	1.03	1.10	1.07	1.19	1.18
	Cronbach's alpha	n.a.	n.a.	n.a.	.86	.90	.78	.86	.88	.89

Note. ** $p < 0.01$; * $p < 0.05$; n.a. – not applicable.

Table 2 *Model fit indices for alternative models*

Model	χ^2	df	χ^2/df	IFI	CFI	TLI	RMSEA
M1	36.22	23	1.57	.99	.97	.98	.06
M2	32.24	20	1.61	.98	.96	.98	.07
M3	41.15	23	1.79	.96	.96	.94	.08

Note. χ^2 = chi-square; df = degrees of freedom; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation.

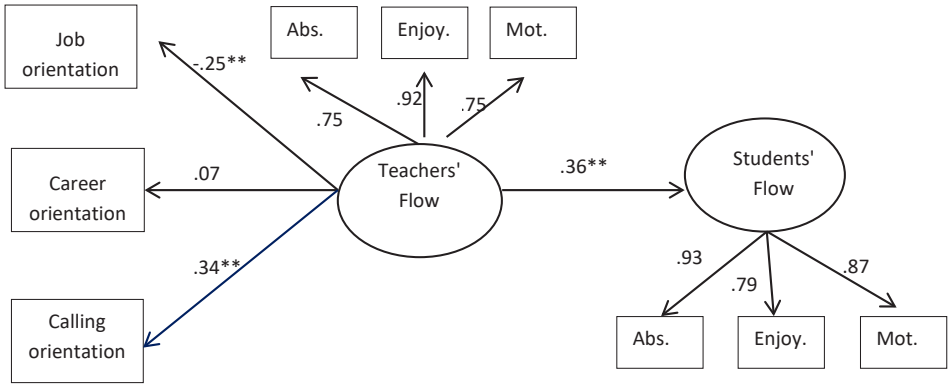

Figure 1 Model linking work orientations, teachers' flow and students' flow.

the teacher was also tested (M3). The results showed that this alternative model also does not fit better to the data than the proposed hypothetical model (M1), Delta χ^2 (2) = 4.93, p = .01

The results of the final flow model (M1) are presented in Figure 1.

Discussion

This study integrates three theoretical perspectives, flow theory (Csikszentmihalyi, 1975/2000), the work orientation perspective (Wrzesniewski et al., 1997), and emotional contagion theory (Hatfield et al., 1994) in postulating a model with work orientations as antecedents of flow experiences among music teachers, and flow experiences among their students as a consequence. Thus, the central aim of this study was to answer two questions, namely whether work orientations are possible antecedents of flow experiences while teaching a musical instrument among music teachers, and to what extent flow may cross over from teachers to their students during this process.

As expected, the results showed that work orientations lead to teachers' flow experiences in teaching in a predictive manner. Teachers with a calling orientation had more frequent flow experiences during teaching, while those with a job orientation had less frequent flow experiences. The results are in line with the previous research in music teachers' sample (Ivanković et al., 2024) and with the research done with samples of elementary school teachers (Jurčec, 2019), both showing that teachers' calling orientation was positively related while teachers' job orientation was negatively related to experiencing flow at work. A previous study by Bakker (2005) found that experiencing work-related flow by music teachers is positively associated with job resources (Bakker, 2005). In this study, we use work orientations as the starting theoretical point (Wrzesniewski et al., 1997), but theoretical association between work orientations and job resources may be assumed. Calling orientation itself may be viewed as a type of job resource, i.e., a personal resource. In addition, people with calling orientation are prone to job crafting (Jurčec et al., 2021). Crafting one's job requires being proactive, seeking challenges, and acquiring skills to face these challenges, which are tendencies that also facilitate flow experiences. The

third theoretical explanation of the positive relationship between calling orientation and experiencing flow at work refers to calling as the intrinsic type of motivation. In fact, the concept of flow and the concept of calling orientation have similarities, or at least mutual correlates such as: high intrinsic motivation, engagement, commitment, personal involvement, and identification to work and/or activity (e.g., Csikszentmihalyi, 1990; Duffy et al., 2017; Jung & Yoon, 2016; Kahn & Fellows, 2013; Rothmann & Hamukang'andu, 2013b).

Contrary to the calling orientation, we found a negative relationship between job orientation and flow in teaching. Generally, employees with job orientation are extrinsically motivated for their job, their working motivation is related to salary and other material benefits. Their identity is not related to their job, and therefore, they do not seek challenges and work as little as they are obliged to. In other words, they do not deeply engage in their work and try to avoid challenges all of which seems to have a negative impact on experiencing flow.

Carrier orientation in the tested model has no relationship with flow in teaching and teachers' well-being, which is in line with previous studies (Jurčec, 2019). Although carrier-oriented teachers may be motivated to improve their skills in order to advance, they may lack intrinsic motivation for everyday teaching which is necessary for flow experiences.

Although playing a musical instrument is itself a flow-evoking activity, the results of this study point to a crossover of flow from teachers to students. This is in line with the emotional contagion theory (Hathfield et al., 1994), confirming the contagion of flow experiences as well. The results are also in line with previous findings of the crossover of flow from music teachers to students (Bakker, 2005), and the crossover of emotional experiences in general, including both positive and negative emotional experiences (e.g., Bakker et al., 2007). Thus, it seems that teachers' experience of flow while teaching the playing of an instrument is important for facilitating their students' experience of flow while playing an instrument. The underlying mechanisms of crossover of flow from teachers to students are not yet fully understood, but it is proposed that automatic mimicry, defined as the unconscious or automatic imitation of speech and movements, gestures, facial expressions, and eye gaze, translates into emotional contagion (Hatfield et al., 1994; Hatfield et al., 2014; Prochazkova & Kret, 2017). In other words, students automatically synchronize their expressions, vocalizations, postures, and movements with those of their teachers. Other hypothetical mechanism is empathic identification, i.e., conscious transmission of emotion (Bakker et al., 2007). Besides teachers' flow experiences during teaching, there are also other factors that help students experience study-related flow, such as promoting positive perfectionism (Ljubin Golub et al., 2018), clear goals and feedback (Steehl & Fullagar, 2009), and support of students' need for autonomy (Ljubin-Golub et al., 2020). Teachers should be aware of all these factors to facilitate flow in their students.

The main strength of the study is the theoretical integration of three theories, i.e., work orientations, flow and emotional contagion theories, which adds to the comprehension of the factors that contribute to experiencing flow. Further, this research examines all three working orientations in relation to flow. The studies including all three working orientations and flow are lacking and this study fills this gap. Additionally, to our knowledge, this is the first study relating students' flow with working orientations of their teachers, and thus this study points to working orientations as important factors for understanding flow contagion.

Limitations and Future Research

Future studies should explore the role of crossover in the context of other relevant factors such as the characteristics of teachers or specific teaching methods which may moderate the role of emotional contagion. Especially interesting is whether there are some contexts in which the contagion of flow is even higher. From previous studies, it is known that emotional contagion is higher if people are close (for a review, see Hess & Fisher, 2013), so the close relationship between teachers and students could promote the contagion of flow in a learning context.

The first limitation relates to the cross-sectional nature of this study which does not allow for conclusions to be drawn on the causal directions among the variables in our model. Therefore, longitudinal studies are needed to validate the causal relations between having a calling and teachers' flow, as well as the causal relationship between teachers' and students' flow. In addition, since previous research found that calling changes over time (Duffy et al., 2011), it would be interesting to find out how these changes are related to flow experiences.

Second, since calling and flow experiences among the same participants were measured using self-report questionnaires, a potential common method bias may cause a high correlation effect (Podsakoff et al., 2003). On the other hand, common method variance was not an issue for the flow contagion hypothesis since two different samples were used, and the strength of the relationship between teachers' flow and students' flow may be underestimated.

Third, this research explored the presence of calling. The current literature distinguishes between perceiving a calling and living a calling (Duffy et al., 2018; Jurčec et al., 2023) and future studies might investigate the role of living a calling in music teachers' flow experiences.

Before generalizing to other types of teachers, a corroboration of findings in other samples of teachers is advisable. It should also be noted that we did not use the measure of whether students look to the teacher for clues about their own flow experiences. Using such a measure would increase the knowledge about the mechanisms of flow contagion. The possibility of crossover of flow from students to teachers should also be investigated in future studies.

Practical Implications

Based on these findings, the calling orientation of teachers should be cultivated in order to facilitate their experience of flow in teaching. Thus, strategies aimed at reminding teachers of their calling in their teaching profession or intervention strategies aimed at improving teachers' passion for their profession should be used by school management and educational organizations. Such strategies could include workshops about calling (Dik & Steger, 2008), and the employment selection of teachers based on work orientations in addition to other criteria. Also, educating teachers (and student teachers) about flow and how to facilitate experiences of flow should be encouraged.

Conclusion

This study for the first time investigates teachers' work orientations as antecedents of flow in teaching students to play an instrument. It was found that teachers with calling orientation experience flow in teaching more frequently and their flow in teaching students to play an instrument may crossover to their students during this process.

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